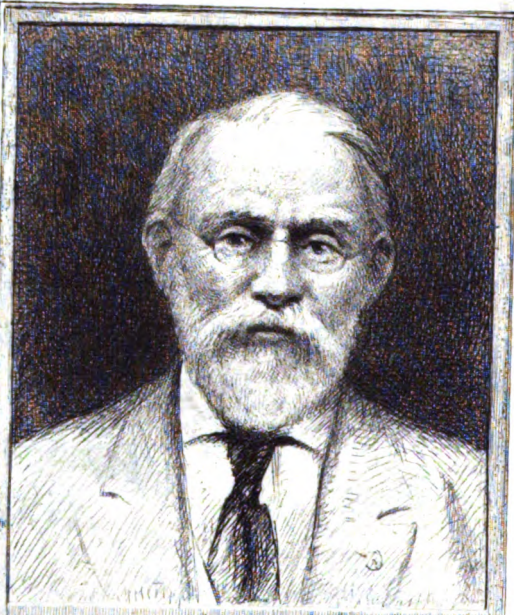

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The JOURNAL of the UNITED SERVICE Institution of India

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UNITED SERVICE INSTITUTION OF INDIA.

Rules of Membership.

ALL officers of the Royal Navy, Army, Royal Air Force, Colonial Forces, and of the Auxiliary Force, India, and Gazetted Government Officers shall be entitled to become members without ballot, on payment of the entrance fee and annual subscription.

The Council shall have the power of admitting as honorary members, the members of the Diplomatic Corps, foreign naval and military officers, foreigners of distinction, other eminent individuals, and benefactors to the Institution, not otherwise eligible to become members.

Life Members of the Institution shall be admitted on the following terms :—

Rupees 120 + entrance fee (Rs. * 10) = Rs. 130.

Ordinary members of the Institution shall be admitted on payment of an entrance fee of Rs. * 10 on joining, and an annual subscription of Rs. 10, *to be paid in advance*. The period of subscription commences on 1st January.

Members receive the Journal of the Institution, post free anywhere.

Members may obtain books from the library on paying V.-P. postage.

Honorary Members shall be entitled to attend the lectures and debates, and to use the premises and Library of the Institution without payment; but should they desire to be supplied with the Journal, an annual payment of Rs. 10, *in advance*, will be required.

Divisional, Brigade and Officers' Libraries, Regimental Messes, Clubs, and other subscribers for the Journal, shall pay Rs. 10 per annum.

Sergeants' Messes and Regimental Libraries, Reading and Recreation Rooms shall be permitted to obtain the Journal on payment of an annual subscription of Rs. 10.

If a member fails to pay his subscription for any financial year (ending 31st December) before the 1st June in the following year, a registered notice shall be sent to him by the Secretary inviting his attention to the fact. If the subscription is not paid by 1st January following his name shall be posted in the Reading Room for six months and then struck off the roll of members.

Members joining the Institution on or after the 1st October, will not be charged subscription until the following 1st January, unless the Journals for the current year have been supplied.

Members are responsible that they keep the Secretary carefully posted in regard to changes of rank and address. Duplicate copies of the Journal will not be supplied free to members when the original has been posted to a member's last known address, and not been returned by the post.

All communications shall be addressed to the Secretary, United Service Institution of India, Simla.

* Rs. 7 in the case of British Service Officers serving in India.

Contributions to the Journal.

All papers must be typewritten (in duplicate) and only on one side of the paper. All proper names, countries, towns, rivers, etc., must be in capital letters. All plans must have a scale on them.

Contributors are responsible, when they send articles containing any information which they have obtained by virtue of their official positions, that they have complied with the provisions of A. R. I. para. 204, and King's Regulations, para. 509.

Anonymous contributions under a *non-de-guerre* will not be accepted or acknowledged; all contributions must be sent to the Secretary under the name of the writer and the paper will, if accepted, be published under that name unless a wish is expressed for it to be published under a *non-de-guerre*. The Executive Committee will decide whether the wish can be complied with.

The Committee reserve to themselves the right of omitting any matter which they consider objectionable. Articles are only accepted on these conditions.

The Committee do not undertake to authorise the publication of such papers as are accepted in the order in which they may have been received.

Contributors will be supplied with three copies of their paper *gratis*, if published. Manuscripts of original papers sent for publication in the Journal will not be returned to the contributor, unless he expresses a wish to have them back and pays the postage.

MILITARY WIDOWS' FUND,

BRITISH SERVICE

THIS FUND enables a British Service (Army) officer, by subscribing from Rs. 6 to Rs. 10 per quarter, to assure, in the event of his death while on the Indian Establishment, immediate payment :—

To his widow	Rs. 5,850	to	Rs. 8,250
For each child	„ 500	to	„ 750

Payments are made immediately on receipt of report of death, irrespective of death occurring in or out of India.

The sum paid to the widow varies with subscription and the sum for each child varies with age of child. Subscriptions are based on the rank of the officer.

Benefits are payable whether the deceased officer's family is residing in India or not.

It is to the advantage of an officer to join the Fund on his first tour of service in India, as otherwise, on joining it in a subsequent tour he would have to pay subscriptions for any previous tours in the country as a married officer, since 1st January 1919.

The Fund (late Queen's Military Widows' Fund) was established in 1820, to assist families of British Service (Army) officers dying in India, and mainly to enable them to return Home without delay.

The Fund is controlled by a Committee consisting of and elected by subscribing officers serving at Army Headquarters, Simla.

For admission and rules apply to :—

The Secretary,

MILITARY WIDOWS' FUND,

Army Headquarters, Simla.

United Service Institution of India.

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His Excellency the Governor of Bombay.
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His Excellency the Governor of the United Provinces.
His Excellency the Governor of the Punjab.
His Excellency the Governor of Bihar and Orissa.
His Excellency the Governor of Burma.
His Excellency the Governor of the Central Provinces.
His Excellency the Governor of Assam.
His Excellency the Naval Commander-in-Chief, East Indies.
The General Officer Commanding-in-Chief, Northern Command.
The General Officer Commanding-in-Chief, Southern Command.
The General Officer Commanding-in-Chief, Eastern Command.
The General Officer Commanding-in-Chief, Western Command.

MEMBERS OF THE COUNCIL, 1926-27.

Ex-officio Members.

- | | |
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| 1. The Chief of the General Staff. | 9. The Air Vice-Marshal, Commanding
R. A. F. in India. |
| 2. The Secretary, Army Department. | 10. The Director-General, Indian Medical
Services. |
| 3. Sir Denys Bray, K.O.I.E., C.S.I., C.B.E. | 11. The Director, Medical Services. |
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| 8. The Engineer-in-Chief. | |

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| 16. Major G. de la P. Beresford, M.C. | 20. Major R. G. Cherry, M.C., R. A. |
| 17. Squadron Leader E. J. Hodsoll, R.A.F. | |

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Elected Members.

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| 2. Major-General H. E. ap Rhys Pryce,
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| 3. Colonel W. D. Croft, C.M.G., D.S.O. | 6. Major G. de la P. Beresford, M.C. |
| | 7. Squadron Leader E. J. Hodsoll, R.A.F. |

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1. The United Service Institution of India is situated at Simla.
2. Officers wishing to become members of the United Service Institution of India should apply to the Secretary. The rules of membership are printed inside front cover.

3. The Reading-room of the Institution is provided with all the leading newspapers, magazines, and journals of military interest that are published.

4. There is a well-stocked library in the Institution, from which members can obtain books on loan free. Suggestions for new books are solicited, and will be submitted to the Committee. Books are sent out to members V.-P. for the postage.

5. The Institution publishes a Quarterly Journal in the months of January, April, July and October which is issued postage free to members in any part of the world.

6. Members and the public are invited to contribute articles to the Journal of the Institution for which honoraria will be awarded by the Executive Committee. Rules for the guidance of contributors will be found in para. IV, Secretary's Notes.

7. Members are responsible that they keep the Secretary carefully posted with regard to changes of address.

8. When temporarily in the U. K. Officers of the Indian Army can join the Royal United Service Institution, Whitehall, for a period of six months on payment of half a guinea, or for a period of one year on payment of a guinea.

AMENDMENTS

TO THE

Rules of the U. S. I. of India.

V. **Government**—Rule 13 is cancelled.

VI. **Membership**—Rule 4 is reconstructed as under :—

“British Service Officers serving in India shall pay an entrance fee of Rs. 7 only”.

Rule 5 the first sentence is reconstructed as under :—

“Members receive the journal of the Institution post free to any part of the world.”

Rule 13 is cancelled.

Affiliation Rules (page 7) are cancelled,

By order of the Council.

J. G. SMYTH, CAPTAIN,

Secretary, U. S. I. of India.

SIMLA,

1-1-1927.

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United Service Institution of India.

JANUARY, 1927.

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I.—New Members.

The following new members joined the Institution from 1st September to 30th November 1926.

LIFE MEMBERS.

Lieutenant I. M. Cadell.

Captain A. K. McGonigal.

Major J. D. Bibby.

Lieutenant F. E. M. Barford.

ORDINARY MEMBERS.

Captain M. Henry.

Captain J. M. B. C. Plowden.

Squadron Leader G. W. Murlis-Green.

Captain M. Middleton.

Captain S. W. Haylock.

Captain A. W. Duncan.

Squadron Leader T. V. Lister.

Major S. A. H. Hungerford.

Captain E. F. Tucker.

Colonel on the Staff H. C. Jackson.

Captain J. H. L. Hindmarsh.

Lieutenant E. A. E. Bolton.

Lieutenant F. S. Reid.

Lieutenant J. M. Saegert.

Captain E. L. Armitage.

Captain H. T. Lawden.

Lieutenant G. S. Newman.

Lieutenant Wazirzada Ajaib Singh.

II.—Examinations.

(a) The special periods of military history for future Promotion Examinations are as follows :—

1	2	3	4	5
Serial No.	Date of examination.	Campaign set for the first time.	Campaign set for the second time.	Campaign set for the last time.
1	April 1927 ..	Campaign of the British Army in Mesopotamia, 1916-17, under General Maude, from his accession to command up to 30th April 1917. Questions may be set on events leading up to the inception of the campaign, and the general conditions under which the Expeditionary force was despatched and reinforced also on the conditions of the country and climate as affecting operations.	Campaign of the British Army in 1914 in France and Belgium. General period from commencement of hostilities to the end of the battle of the Aisne. Special period from 18th August to 31st August (Battle of the Marne).	
2	October 1927 ..	..	Mesopotamia (as given in Serial 1, Column 3).	France 1914 (as given in Serial 1, Column 4).
3	April 1928 ..	To be notified later.	..	Mesopotamia (as given in Serial 1, Column 3).

(b) Books on military history and languages with dictionaries are available in the Library. The following list of books may be found useful for reference by officers studying for Promotion Examinations or entrance to the Staff College :—

(The list of books presented and purchased as shown in the Journal should also be consulted.)

MILITARY HISTORY.

1. *The Campaign of the British Army in France and Belgium up to 20th November, 1914.*

A.—OFFICIAL HISTORY OF THE WAR.

Military Operations, France and Belgium, Vol. I (to October, 1914).

Military Operations, France and Belgium, Vol. II (to 20th November, 1914).

Sir John French's Despatches.

B.—OTHER BOOKS.

40 days in 1914 (General Maurice, new edition).

1914 (Viscount French).

My War Memories (Ludendorff).

General Headquarters, 1914—16, and its Critical Decisions (Falkenhayn).

The March on Paris, 1914 (Von Kluck).

Ypres, 1914. (An official account) (German General Staff).

Oxford Pamphlets, August 1914. The Coming of the War. (Spencer Wilkinson).

Oxford Pamphlets, August 1914, Nos. VII and X.

Times Documentary History of the War, Vol. V, Military, Part I.

Times Documentary History of the War, Vol. VIII, Part III.

Der Grobe Krieg: Die Schlacht bei Mons (German General Staff).

Der Grobe Kreig: Die Schlacht bei Longwy (German General Staff).

Story of the Fourth Army (Montgomery).

2. *The Palestine Campaign.*

A.—OFFICIAL ACCOUNTS.

A Brief Record of the Advance of the Egyptian Expeditionary Force, 1919.

The Australian Imperial Force in Sinai and Palestine (H. S. Gullett).

The New Zealanders in Sinai and Palestine (Lt.-Col. C. G. Powles).
Yilderim (Dr. Steuber).

B.—OTHER BOOKS.

Allenby's Final Triumph (W. T. Massey).

How Jerusalem was Won (W. T. Massey).

Outline of the Egyptian and Palestine Campaigns, 1914-18
(Bowman-Manifold).

L'Attaque du Canal de Suez (Douin).

3. *The Gallipoli Campaign.*

Official Account : Official History of the War, Naval Operations,
Vols. II and III.

Gallipoli Campaign (Outline of Military Operations). By A
Student.

Official Despatches.

The Dardanelles (Callwell).

Experiences of a Dugout (Callwell).

Despatches from the Dardanelles (Ian Hamilton).

The Navy in the Dardanelles Campaign (Wemyss).

The World Crisis (Winston Churchill).

**4. *The Russo-Japanese War, 1904, up to and including the
battle of Liao-Yang.***

A Staff Officer's Scrapbook (Ian Hamilton).

German Official Account.

Lectures on the Strategy of the Russo-Japanese War (Bird).

Question on the Russo-Japanese War (Brunker).

Official Account : The Russo-Japanese War (Naval and Military),
3 Vols., published by Committee of Imperial Defence.

Outline of the Russo-Japanese War (Ross).

A Study of the Russo-Japanese War (Chasseur).

My Experiences at Nan Shan and Port Arthur (Tretyakow).

Outline History of the Russo-Japanese War, 1904, up to the
Battle of Liao-Yang, with Questions and Answers (P. W.).

A short account of the Russo-Japanese War ("Footslogger").

An account of the battle of Liao-Yang (with questions and 10
maps of examination purposes) (Bird).

5. *Organization of Army since 1868.***A.—ORGANIZATION OF ARMY SINCE 1868.**

History of British Army, by Fortescue, Vols. I to XI.

Outline of the Development of British Army, by Major-Genl. Sir
W. H. Anderson.

Our Fighting Services, by Sir Evelyn Wood.

B.—FORCES OF THE EMPIRE.

* Notes on the land forces of the British Dominions, Colonies,
Protectorates and Mandated Territories, 1925.

The Statesman's Year Book.

Army List.

Articles in Newspapers and Magazines, viz., R. U. S. I.

Army Quarterly, Journal of the U. S. I. of India, etc.

6. *Development and Constitution of the British Empire.***A.—THE BRITISH EMPIRE.**

Encyclopædia Britannica—(contains much concentrated information).

The Statesman's Year Book.

Whitaker's Almanack.

The Colonial Office List.

The Government of the British Empire (Jenks, 1923).

The Foundation and Growth of the British Empire (J. A. Williamson, 1918).

The Beginnings of English Overseas Enterprise (Sir C. P. Lucas, 1917).

The British Empire Series. (XII volumes).

The Government of England (L. A. Lowell, 1912).

The Expansion of the British Empire (W. H. Woodward, 1921
and 1924 edition).

Overseas Britain (E. F. Knight, 1907).

The Origin and Growth of the English Colonies and of Their System
of Government (H. E. Egerton, 1903).

A Short History of Politics (Jenks, 1900).

The English Constitution (Bagehot, 1909).

The Expansion of England (Sir J. Seely, 1883).

* Particularly recommended by the C. I. G., S. for all officers to read.

Introduction of the Study of the Law of the Constitution (A. V. Dicey, 1908).

England in the Seven Years' War (Sir J. Corbett, 1907).

Selected Speeches and Documents on British Colonial Policy, 2 Vols. (A. B. Keith, 1918).

B.—BOOKS ON SPECIAL PORTIONS OF THE EMPIRE OR WORLD.

The Rise and Expansion of British Dominions in India (Sir A. C. Lyall, 1894).

A Brief History of the Indian Peoples (Sir W. H. Hunter, 1907).

The Nearer East (Hogarth, 1902).

Modern Egypt (Cromer, 1908).

Egypt and the Army (Elgood, 1924).

The History of Canada (W. L. Grant).

Nova Scotia (B. Wilson, 1911).

Report on British North America (Sir C. P. Lucas).

The Union of South Africa (R. H. Brand, 1909).

Short History of Australia (E. Scot).

History of the Australasian Colonies (Jenks, 1912).

The English in the West Indies (J. A. Froude, 1888).

The Lost Possessions of England (W. F. Lord, 1896).

7. *Military Geography.*

Naval and Military Geography of the British Empire (Dr. Vaughan Cornish, 1916).

Elementary Imperial Military Geography (Capt. D. H. Cole, 1925).

Introduction of Military Geography (Col. E. S. May).

Imperial Defence (Col. E. S. May).

Main Feature of the Japanese and other Pacific Problems.

(Reprinted from "Morning Post." Sifton Præd).

Britain and the British Seas (H. J. Makinder, 1907).

Military Geography (Macguire).

Imperial Strategy (Repington).

War and the Empire (H. Foster).

Historical Geography of British Colonies (Dominions), 7 Vols.

(Sir C. P. Lucas, 1906-17)—

- Vol. 1, Mediterranean.
- Vol. 2, West Indies.
- Vol. 3, West Africa.
- Vol. 4, South Africa.
- Vol. 5, Canada.
- Vol. 6, Australia.
- Vol. 7, India.

The Influence of Sea Power on History (A. T. Mahan, 1890).

Historical Geography of the British Empire (Hereford George).

The Mastery of the Pacific (A. R. Colquhoun, 1902).

Frontiers (C. B. Fawcett, 1918).

8. *Foreign Armies.*

OFFICIAL.

* Handbook of the United States Army, 1924.

* Handbook of the Army of the Netherlands, 1922.

* Handbook of the French Army, 1925.

9. *Tactical.*

Common mistakes in the solution of tactical problems and how to avoid them (Lieut.-Colonel A. B. Beauman, 1925).

Historical illustrations to Field Service Regulations, Vol. II (Major E. G. Eady, 1926).

Elementary tactics or the art of war, British School (Major R. P. Pakenham-Walsh, 1926).

III.—Payment for Articles in the Journals.

Articles accepted for publication in the Journal are paid for, and a sum of approximately Rs. 500 is awarded for articles and reviews published in each Quarterly Journal.

IV.—Contributions to the Journal.

Articles submitted for publication must be typed in *duplicate*. With reference to Regulations for the Army in India, paragraph 204 and King's Regulations, paragraph 509, action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee.

Instructions for the preparation of drawings and plans for reproduction by lithography.

These should be in *jet* black. No washes or ribands of colour should on any account be used.

If it is absolutely necessary to use colour (and these are only permissible in line work or names) the following will reproduce photographically, *i. e.* :—

Dark red, dark orange, dark green. No other colour should on any account be used.

V.—Library Rules.

1. The Library is only open to members and honorary members of the United Service Institution of India. Members are requested to look upon books as not transferable to their friends.

2. No book shall be taken from the Library without making the necessary entry in the register. Members residing permanently or temporarily in Simla are requested to enter their addresses.

3. The United Service Institution of India is open all the year round—including Sundays—from 9 A.M. until sunset. Books may be taken out at any time provided Rule 2 is complied with.

4. A member shall not be allowed, at one time, more than three books or sets of books.

5. Papers, magazines, “works of reference” or books marked “Not to be taken away,” or noted as “Confidential” may not be removed.

6. No particular limit is set as to the number of days for which a member in Simla may keep a book, the Council being desirous of making the library as useful as possible to members; but if after the expiration of a fortnight from date of issue it is required by any other member it will be re-called.

7. Applications for books from members at out-stations are dealt with as early as possible, and books are despatched per Registered V. P. P. They must be returned carefully packed per Registered Parcel Post within one month of date of issue, or application made for permission to retain them for a further period. This will always be granted unless the book is required by another member.

8. If a book is not returned at the end of four months, it must be paid for without the option of return, if so required by the Executive Committee.

9. Lost and defaced books shall be replaced at the cost of the member to whom they were issued. In the case of lost books which are out of print the value shall be fixed by the Executive Committee, and the amount, when received, spent in the purchase of a new book.

10. The issue of a book under these rules to any member implies the latter's compliance with the rules, and the willingness to have them enforced, if necessary, against him.

11. A list of all books presented and purchased, and also a list of books useful to members studying for the Staff College and Promotion Examinations, will be found under Secretary's Notes in the quarterly issue of the U. S. I. Journal. Members are invited to note any books which they think might with advantage be procured for the Institution.

12. Members are invited to contribute presents of books, maps, and photographs of naval and military interest. These may be addressed to the Secretary, U. S. I. of India, Simla. They will be duly acknowledged.

VI.—Library Catalogue.

The catalogue is completed to 31st March 1924. Price Rs. 3-8-0 or postage paid Rs. 3-14-0.

VII.—Gold Medal Prize Essay Competition, 1927.

The Council has chosen the following subjects for the Gold Medal Essay for 1927 :—

- (i) In view of the climatic and physical features of theatres in which the Army in India is likely to be employed, consider the possibility of mechanicalizing its various arms and services. To what extent would such mechanicalization affect our present methods of operating on the North-West Frontier of India ?

or

- (ii) In the event of a war threatening British interests in the Far East and Indian Ocean, consider the best method of employing the fighting forces of India, and such expeditionary forces as the Australasian Dominions may be able to furnish as a covering force, pending the mobilization of the resources of the Empire.

The following are the conditions of the competition :—

1. The competition is open to all gazetted officers of the Civil Administration, the Royal Navy, Army and Royal Air Force or Auxiliary Forces who are members of the U. S. I. of India.
2. Essays must be printed or type-written and submitted in triplicate.
3. When a reference is made to any work, the title of such work is to be quoted.
4. Essays are to be strictly anonymous. Each must have a motto and, enclosed with the essay, there should be sent a sealed envelope with the motto written on the outside and the name of the competitor inside.
5. Essays will not be accepted unless received by the Secretary on or before the 30th June 1927.
6. Essays will be submitted for adjudication to three judges chosen by the Council. The judges may recommend a money award, not exceeding Rs. 150, either in addition to or in substitution of the medal. The decisions of the three judges will be submitted to the Council, who will decide whether the Medal is to be awarded and whether the essay is to be published.
7. The name of the successful candidate will be announced at a Council Meeting to be held in September or October 1927.
8. All essays submitted are to become the property of the United Service Institution of India absolutely and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.
9. Essays should not exceed 15 pages of the size and style of the Journal exclusive of any appendices, tables or maps.

By order of the Council,

J. G. SMYTH, CAPTAIN,

Secretary, U. S. I. of India.

SIMLA :

1st October 1926.

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VIII.—Army List Pages.

The U. S. I. is prepared to supply members and units with manuscript of type-written copies of Indian Army List pages, at the rate of Rs. 2 per manuscript or type-written page.

IX.—**BOOKS PRESENTED.**

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. Talks on Leaderships (Presented by the Royal Artillery Institution, Woolwich).	1926	Basilisk.
2. The Empire at War (Vol. V)... (Presented by the Oxford University Press).	1926	Sir Charles Lucas.
3. Mosquito Reduction and Malarial Prevention. (Presented by the Oxford University Press).	1926	J. A. Crawford and B. C. Chalam.
4. All the World's Aircraft .. (Presented by Messrs. Sampson Low & Co., Ltd., London).	1926	C. G. Grey.
5. The Third Afghan War, 1919 .. (Presented by Central Publication Branch, Calcutta).	1926	Official.
6. The Armies of the First French Republic. (Presented by the Oxford University Press.)	1926	R. Weston Phipps.
7. The Journal of Careers and Monthly School Calender.	1926	Truman and Knightly.
8. Raffles 1781-1826 .. (Presented by the Oxford University Press).	..	R. Coupland.

BOOKS PURCHASED.

<i>Title.</i>		<i>Published.</i>	<i>Author.</i>
1. The Empire at War	..	1926	Sir Charles Lucas.
2. The Naval History of the World War 1914-16 (Vols. II).		1925	T. G. Frothingham.
3. In the Heart of Asia	..	1925	P. T. Etherton.
4. The Intimate Papers of Colonel House, 1912-1917.		1926	Charles Seymour.
5. The American Task in Persia	..	..	A. C. Millsbaugh.
6. The French Revolution	..	1922	Nesta H. Webster.
7. The World Revolution	..	..	Ditto.
8. The War God Walks Again	..	1926	F. Britten Austin.
9. The Study of War	..	1926	E. Swinton.
10. Governments and War A Study of the Conduct of War.	..	1926	F. Maurice.

BOOKS ON ORDER.

The Socialist Net Work	Nesta H. Webster.
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X.—Pamphlets.

The following may be obtained by V. P. P., plus postage, on application to the Secretary :—

- (a) British and Indian Road Space Tables (separately). As. 12 each.
- (b) Diagram of Ammunition Supply (India). As. 4.
- (c) Home War Establishment Tables (provisional). Re. 1-4-0.
- (d) Diagram showing new system of maintenance in the field at Home. As. 8.
- (e) Military Law Paper, questions and answers. As. 4. (As used at the A. H. Q. Staff College Course, 1926).

XI.—Schemes.

The schemes in the Institution have been considerably increased and in order to simplify their issue they have been classified and numbered as follows :—

They can all be obtained by V.-P. P. plus postage, on application to the Secretary.

- (A) *Administrative Exercise* (with diagram) .. Rs. 2.

To illustrate the supply system of a Division.

Suitable for Staff College or promotion.

- (B) *Mountain Warfare* Rs. 5 each.

(i) Three lectures on Mountain Warfare.

(ii) A scheme complete with Map and Solution.

- (C) *New Staff College Series* (1926) Rs. 5 each.

Each of these schemes is complete with map, solution and reasons. Each scheme contains three situations.

(i) Approach March.

Reconnaissance of night attack.

Orders for night attack.

(ii) Outposts.

Defence.

Action of a Force retiring.

(iii) Move by M. T.

Occupation of a defensive position.

Counter-attack.

(iv) Tactical Exercise without troops.

Reconnaissance for attack.

Attack orders.

(D) *Promotion Series* Rs. 5 each.

Each of these schemes is complete with map and solution.

- (i) Outpost.
Defensive position.
Withdrawal.
- (ii) Tactical Exercise without troops.
Reconnaissance.
Attack orders.
- (iii) Mountain Warfare.
- (iv) Defence.
Attack orders.
- (v) Appreciation of the situation.

(E) *Staff College Course Schemes (1926).*

- (i) A set of three schemes, as given at the A. H. Q. Staff College Course, 1926, complete with map and solutions. *Complete set Rs. 6.*

A limited number of the following papers are available :—

- (ii) Tactical Exercise without troops (with map and solution) Rs. 3-8.
- (iii) Outpost problem (with map and solution) .. Rs. 3
- (iv) Rearguard scheme (with map and solution) .. Rs. 3.
- (v) Organisation and Administration paper (with solution) Rs. 2.

(F) Copies of the recent (February 1926) Staff College Examination papers are available :—

- Training for war papers (with maps) Rs. 3 each.
- Other papers Re. 1 ..

(G) Course of five lectures given at the London School of

Economics, 1925, on "Transportation in War" .. As. 12 each.

Efforts are being made to compete with demands for tactical schemes from officers working for the Staff College and Promotion Examinations by introducing as many new schemes as possible.

It is obviously impossible for the Secretary to undertake the correction of individual solutions, but all the recent schemes include a suggested solution in the form in which it is considered that the paper should have been answered with reasons for the solution given.

Officers are recommended to work all their schemes against time and to get into the habit of the methodical allotment of time to the various questions asked.

XII.—Training Manuals.

The following new Training Manuals have recently been published at Home :—

Machine Gun Training, 1925.

Infantry Training, Vol. II.

Field Service Pocket Book.

They will all be reprinted for issue in India but in the meanwhile can be obtained on payment from any of the big booksellers.

XIII.—Attendance of officers from India at Courses of Instruction and Manœuvres at Home during their leave.

I. A. O. No. 122 of 1926 announces that—

- (a) A limited number of officers on the Indian Establishment may attend courses of Instruction at Home on application to their Command Headquarters.
- (b) 20 officers may do short periods of attachment to units between May and September and to formations during July and August. Applications to be submitted through Commands.
- (c) Officers may attend manœuvres at Home as spectators on application to the India Office.

In the case of (a) and (b) officers will be eligible for all allowances, in addition to leave pay, admissible in similar circumstances to an officer of the British service on the Home Establishment. In the case of (c) no allowances are admissible.

Prize Essay Gold Medalists.

(With rank of Officers at the date of the Essay.)

- 1872..ROBERTS, Lieut.-Col. F. S., v.c., c.b., r.a.
 1873..COLQUHOUN, Capt. J. S., r.a.
 1874..COLQUHOUN, Capt. J. S., r.a.
 1879..St. JOHN, Maj. O.B.C., r.e.
 1880..BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882..MASON, Lieut. A. H., r.e.
 1883..COLLEN, Maj. E. H. H., s.c.
 1884..BARROW, Capt. E. G., 7th Bengal Infantry.
 1887..YATE, Lieut. A. C., 27th Baluch Infantry.
 1888..MAUDE, Capt. F. N., r.e.
 YOUNG, Maj. G. F., 24th Punjab Infantry (specially awarded a silver medal).
 1889..DUFF, Capt. B., 9th Bengal Infantry.
 1890..MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891..CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893..BULLOCK, Maj. G. M., Devonshire Regiment.
 1894..CARTER, Capt. F. C., Northumberland Fusiliers.
 1895..NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896..BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897..NAPIER, Capt. G. S. F., Oxfordshire Light Infantry.
 1898..MULLALLY, Maj. H., r.e.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899..NEVILLE, Col. J. P. C., s.c.
 1900..THUILLIER, Capt. H. F., r.e.
 LUBBOCK, Capt. G., r.e. (specially awarded a silver medal).
 1901..RANKEN, Lieut.-Col. G. P. P., 46th Punjab Infantry.
 1902..TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903..HAMILTON, Maj. W. G., d.s.o., Norfolk Regiment.
 BOND, Capt. R. F. G., r.e. (specially awarded a silver medal).
 1904..MACMUNN, Maj. G. F., d.s.o., r.f.a.
 1905..COCKERILL, Maj. G. K., Royal Warwickshire Regiment.
 1907..WOOD, Maj. E. G. M., 99th Deccan Infantry.
 1908..JEUDWINE, Maj. H. S., r.a.
 1909..MOLYNEUX, Maj. E. M. J., d.s.o., 12th Cavalry.
 ELSMIE, Maj. A. M. S., 56th Rifles, F. F. (specially awarded a silver medal).
 1911..Mr. D. PETRIE, m.a., Punjab Police.
 1912..CARTER, Maj. B. C., The King's Regiment.
 1913..THOMSON, Maj. A. G., 58th Vaughan's Rifles (F. F.).
 1914..BAINBRIDGE, Lieut.-Col. W. F., d.s.o., 51st Sikhs (F. F.).
 NORMAN, Maj. C. L., m.v.o., q.v.o., Corps of Guides (specially awarded a silver medal).
 1915..No Award.
 1916..CRUM, Maj. W. E., v.d., Calcutta Light Horse.
 1917..BLAKER, Maj. W. F., r.f.a.
 1918..GOMPERTZ, Capt. A. V., m.c., r.e.
 1919..GOMPERTZ, Capt. M. L. A., 108th Infantry.
 1920..KEEN, Lt.-Col. F. S., d.s.o., 2/15th Sikhs.
 1921..No Award.
 1922..MARTIN, Maj. H. G., d.s.o., o.b.e., r.f.a.
 1923..KEEN, Colonel F. S., d.s.o., i.a.
 1926..DENNY, Major L. E., m.c., 4/12th Frontier Force Regiment.

MACGREGOR MEMORIAL MEDALS.

1. The MacGregor Memorial Medal was founded in 1888 as a memorial to the late Major-General Sir Charles MacGregor. The medals are awarded for the best military reconnaissances or journeys of exploration of the year.

2. The following awards are made annually in the month of June :—

(a) For officers—British or Indian—silver medal.

(b) For soldiers—British or Indian—silver medal, with Rs. 100 gratuity.

3. For specially valuable work a gold medal may be awarded in place of one of the silver medals, or in addition to the silver medals, whenever the administrators of the fund deem it desirable. Also the Council may award a special additional silver medal, without gratuity, to a soldier, for special good work.

4. The award of medals is made by His Excellency the Commander-in-Chief, as Vice-Patron, and the Council of the United Service Institution who were appointed administrators of the Fund by the MacGregor Memorial Committee.

5. Only officers and soldiers long to the Army in India (including those in civil employ) are eligible for the award of the medal.*

6. The medal may be worn in uniform by Indian soldiers on ceremonial parades, suspended round the neck by the ribbon issued with the medal.

Note.

(i) Personal risk to life during the reconnaissance or exploration is not a necessary qualification for the award of the medal; but in the event of two journeys being of equal value, the man who has run the greater risk will be considered to have the greater claim to the reward.

(ii) When the work of the year has either not been of sufficient value or has been received too late for consideration before the Council Meeting, the medal may be awarded for any reconnaissance during previous years considered by His Excellency the Commander-in-Chief to deserve it.

MacGregor Memorial Medalists.

(With rank of officers and soldiers at the date of the Award.)

1889..BELL, Col. M.S., V.C., R.E. (specially awarded a gold medal).

1890..YOUNGHUSBAND, Capt. F. E., King's Dragoon Guards.

* *N. B.*—The terms " officer " and " soldier " include those serving in the British and Indian armies and their reserves, also those serving in Auxiliary Forces, such as the Indian Auxiliary and Territorial Forces and Corps under Local Governments, Frontier Militia, Levies and Military Police, also all ranks serving in the Indian State Forces.

MacGregor Memorial Medalists—(contd.).

- 1891..SAWYER, Major H. A., 45th Sikhs.
RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892..VAUGHAN, Capt. H. B., 7th Bengal Infantry.
JAGGAT SINGH, Havildar, 19th Punjab Infantry.
- 1893..BOWER, Capt. H., 17th Bengal Cavalry (specially awarded a gold medal).

FAZALDAD KHAN, Dafedar, 17th Bengal Cavalry.
- 1894..O'SULLIVAN, Major G. H. W., R.E.
MULL SINGH, Sowar, 6th Bengal Cavalry.
- 1895..DAVIES, Capt. H. R., Oxfordshire Light Infantry.
GANGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896..COCKERILL, Lieut. G. K., 28th Punjab Infantry.
GHULAM NABI, Sepoy, Q. O. Corps of Guides.
- 1897..SWAYNE, Capt. E. J. F., 10th Rajput Infantry.
SHAHZAD MIR, Dafedar, 11th Bengal Lancers.
- 1898..WALKER, Capt. H. B., Duke of Cornwall's Light Infantry.
ADAM KHAN, Havildar, Q. O. Corps of Guides.
- 1899..DOUGLAS, Capt. J. A., 2nd Bengal Lancers.
MIHR DIN, Naik, Bengal Sappers and Miners.
- 1900..WINGATE, Capt. A. W. S., 14th Bengal Lancers.
GURDIT SINGH, Havildar, 45th Sikhs.
- 1901..BURTON, Maj. E. B., 17th Bengal Lancers.
SUNDAR SINGH, Colour Havildar, 31st Burmah Infantry.
- 1902..RAY, Capt. M. R. E., 7th Rajput Infantry.
TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
- 1903..MANIFOLD, Lieut.-Col. C. C., I.M.S.
GHULAM HUSSAIN, Lance-Dafedar, Q. O. Corps of Guides.
- 1904..FRASER, Capt. L. D., R.G.A.
MOGHAL BAZ, Dafedar, Q. O. Corps of Guides.
- 1905..RENNICK, Maj. F., 40th Pathans (specially awarded a gold medal).
MADHO RAM, Havildar, 8th Gurkha Rifles.
- 1906..SHAHZADA AHMAD MIR, Risaldar, 36th Jacob's Horse.
GHAFUR SHAH, Lance-Naik, Q. O. Corps of Guides Infantry.
- 1907..NANGLE, Capt. M. C., 92nd Punjabis.
SHEIKH USMAN, Havildar, 103rd Mahratta Light Infantry.
- 1908..GIBBON, Capt. C. M., Royal Irish Fusiliers.
MALANG, Havildar, 56th Punjab Rifles.
- 1909..MUHAMMAD RAZA, Havildar, 106th Pioneers.

MacGregor Memorial Medalists—(*conclud.*).

- 1910..SYKES, Maj. M., c.m.g., late 2nd Dragoon Guards (specially awarded a gold medal).
 TURNER, Capt. F. G., R.E.
 KHAN BAHADUR SHEER JUNG, Survey of India.
- 1911..LEACHMAN, Capt. G. E., The Royal Sussex Regiment.
 GURMUKH SINGH, Jemadar, 93rd Burmah Infantry.
- 1912..PRITCHARD, Capt. P. P. A., 83rd Wallahjabad Light Infantry (specially awarded a gold medal).
 WILSON, Lieut. A. T., c.m.g., 32nd Sikh Pioneers.
 MOHIBULLA, Lance-Dafedar, Q. V. O. Corps of Guides.
- 1913..ABBAY, Capt. B. N., 27th Light Cavalry.
 SIRDAR KHAN, Sowar, 39th (K. G. O.) Central India Horse.
 WARATONG, Havildar, Burmah Military Police (specially awarded a silver medal).
- 1914..BAILEY, Capt. F. M., I.A. (Political Department).
 MORSEHEAD, Capt. H. T., R.E.
 HAIDAR ALI, Naik, 106th Hazara Pioneers.
- 1915..WATERFIELD, Capt. F. C., 45th Rattray's Sikhs.
 ALI JUMA, Havildar, 106th Hazara Pioneers.
- 1916..ABDUR RAHMAN, Naik, 21st Punjabis.
 ZARGHUN SHAH, Havildar, 58th Rifles (F. F.) (specially awarded a silver medal).
- 1917..MIAN AFRAZ GUL, Sepoy, Khyber Rifles.
- 1918..NOEL, Capt. E. W. C. (Political Department).
- 1919..KEELING, Lt.-Col. E. H., M.O., R.E.
 ALLA SA, Jemadar, N.-E. Frontier Corps.
- 1920..BLACKER, Capt. L. V. S., Q. V. O. Corps of Guides.
 AWAL NUR, C. Qm. Havildar, 2nd Bn., Q. V. O. Corps of Guides. (Special gratuity of Rs. 200.)
- 1921..HOLT, Major A. L., Royal Engineers.
 SHEER ALI, Sepoy No. 4952, 106th Hazara Pioneers.
- 1922..ABDUL SAMAD SHAH, Capt., O.B.E., 31st D. C. O. Lancers.
 NUR MUHAMMAD, Lance-Naik, 1st Guides Infantry, F. F.
- 1923..BRUCE, Capt. J. G., 2/6th Gurkha Rifles.
 SOHBAT, Head Constable, N. W. F. Police.
 HARI SINGH THAPA, Survey Department.
- 1924..HAVILDAR RAHMAT SHAH, N. W. F. Corps.
 NAIK GHULAB HUSSAIN, N. W. F. Corps.
- 1925..SPEAR, Captain C. R., 5/13th Frontier Force Rifles.
 JABBAR KHAN, NAIK, 5/13th Frontier Force Rifles.
- 1926..HARVEY-KELLY, Major C. H. G. H., D.S.O., 4/10th Baluch Regiment.

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EDITORIAL.

Although all the details of the recent Imperial Conference have not yet been received, it bids fair to have excelled its predecessors in usefulness and in the number and importance of the problems which have been discussed.

It is not always realised to what extent the development of our Imperial communications has made these conferences possible and, in the near future, as the promised air routes are developed, we may hope to see them become more frequent and the scattered fragments of the Empire knit closer together under a common policy.

More can be accomplished in one week of personal communication than by a whole year's correspondence.

The importance of the Singapore base to the security of the Empire was emphasised and the British Prime Minister stated definitely that, in spite of the heavy expenditure involved, the scheme would be proceeded with. The helplessness of a British fleet operating in the Far East without such a base was vividly illustrated in Mr. Britten Austin's recent book "The War God Walks Again."

The discussion on uniformity of training and organisation in the forces of the Empire showed that great strides have been made in this direction since the war. The War Establishments of the British Army are generally accepted in the Dominions and there is considerably more interchange of officers between the Dominions and the Mother Country than there used to be.

India has chosen an officer of the Australian forces as an instructor at the Quetta Staff College and she herself has a staff officer permanently attached to the Australian forces. Australia sends 12 young

officers to India annually to undergo attachments with British Infantry and artillery units and both Canada and Australia send students regularly to the Quetta Staff College.

This interchange, and the personal liason and understanding which result, are invaluable and should be extended still further.

It is a pity that the New Zealand General Staff are so seldom able to take up the vacancy at the Quetta Staff College which is offered to them each year.

The Dominion premiers were given a most interesting demonstration at Camberley of all the latest mechanical vehicles, both of the fighting and transport variety.

The display of so many different types of machines must have brought home to the onlooker the extremely rapid rate of their evolution during the past 3 years; in fact, one improvement follows another so quickly that there is a danger that we may go on experimenting and improving without going into production on any one type.

A great deal of training will be required in these vehicles, not only for the personnel who are going to fight or drive them, but for the staffs who are to manœuvre and maintain them, and such experience can only really be obtained by actual practice. Tactical exercises with imaginary vehicles are useful but not the same thing as similar exercises with the actual machines.

We must be careful therefore that our slender means available are not all exhausted on experiment, leaving none for construction and training.

Perhaps India may lead the way in the matter of the six-wheel transport vehicle.

The trials of the Morris six-wheelers which have recently taken place in India have been eminently satisfactory and no one who has seen them operating over rough country can doubt that they have sounded the death knell of that extremely useful, but now rather prehistoric transport vehicle, the A. T. cart. The latter has done yeoman service, whether bumping down the cobbled streets of France or ploughing through the mud and dust of Mesopotamia, but it must now disappear as the elephant carriage and the bullock cart have done before.

A vehicle of the type of the Morris six-wheeler, which has a small supplementary track adjustable to the 4 back wheels, will make a most effective substitute—both as regards speed and cross-country

performance—but it can hardly hope to out do the A. T. cart in durability. A broken down A. T. cart is seen as seldom as the proverbial dead donkey.

In taking into use the six-wheeler we must, however, realise the limitations of such a machine ; it is neither a tank nor is it amphibious and it will only proceed across country from necessity and not from choice. It can, as a matter of fact, surmount the most astonishing obstacles. We are, however, rather inclined to expect too much from our new inventions and so to belittle their real usefulness. Discussion as to the use of tanks on the frontier is a case in point.

Because the tank of to-day is quite incapable of piquetting the hills, this does not prove that the day of cross-country armoured vehicles on the frontier is not yet. The use of the modern tank in mountain warfare as a movable "pillbox" would be invaluable ; all that is wanted is that it should be able to go where the camel can—and that is certainly not asking too much of it. One tank used as a point to the advanced guard moving along the river bed or to work just behind the rearguard would have the greatest effect—more morally even than materially.

One tank walking through the AHNAI TANGI in Waziristan in 1920 would have shortened considerably that very severe engagement and must have saved many casualties. The tribesmen would not be at all happy holding the hilltops with a moveable pillbox sitting in his rear.

We are perhaps a little inclined to be too ambitious over our new weapons and to expect too much from them instead of realising their value used in co-operation with the means we already have.

* * * * *

No soldier can be in India a month without realising that the great problem which confronts the Indian Army to-day is the problem of the British Officer.

It affects everything—organisation, training and general moral and well being.

Before the war there was great competition to get into the Indian Army, the life was attractive, the pay was good, there was always the chance of seeing service and, in addition, there was a class of English gentleman who sent his sons to the Indian Army as a matter of course.

The life is still attractive, infinitely more so than life in a garrison town at Home ; the pay is quite good, particularly so for the subaltern and unmarried captain ; there is still the chance of active service and yet, with it all, British Officers are hard to get.

The reason is not easy to find.

It may be Indianisation, it may be that the youth of the present generation are softer and fonder of their comforts and that the Englishman's pioneer spirit has diminished.

More likely than these, however, is the fact that the mentality of that class of Englishman who used to send his sons to the Indian Army has undergone certain changes since the war.

Families are smaller and parents are loth to commit them to an unlimited tour of foreign service.

The pendulum may swing back again and a few more years of peace and coal strikes may work a change but the officer problem at present is a big one.

* * * * *

The recent Army Order throwing open the competitive vacancies at the Camberley Staff College to all arms of the Service is of interest.

There has always been a difference of opinion as to whether it is better that every term at the Staff College should have a proportion of each arm of the Service or whether the most capable officers should be taken, irrespective of what arm they belong to. Hitherto the former procedure has been deemed advisable and now the latter has been adopted.

It will be interesting to see what the result will be at the next examination.

* * * * *

From January, 1927 the Small Arms School, Pachmarhi, and the Machine Gun School, Ahmednagar, are being amalgamated under the Commandant. Owing to difficulties of expense and accommodation, it has not been found possible to locate them both in the same place, which would really be preferable, but the amalgamation cannot fail to make for closer co-ordination in weapon training generally.

Whatever the policy may be in the next war, the fact remains that at present the machine gun is primarily a battalion weapon and the

new Infantry Training, Volume II, in "The battalion in defence" lays down that "the machine gun is the most valuable of all the weapons used in defence against infantry.....the artillery fire plans, the siting of the infantry defence works, and the placing of wire obstacles, if available, must therefore all be co-ordinated, as far as possible, to force the enemy into the arcs of fire of the machine guns." In spite of the experience of the last war which proved that, in defence, the machine gun was time after time the decisive factor, we are inclined to look on it as a specialist weapon, rather outside the sphere of knowledge of the regimental officer. This may be due partly to the fact that machine guns were divorced from battalions during the last war, and many people think inevitably will be again in the next war, partly to the fact that machine gun concentration camps are often held entirely separate from the practice camps of the other arms and partly from the Small Arms and Machine Gun Schools being under different Commandants.

There is no getting away from the fact that the machine gun is at present a battalion weapon for the training in which the C. O. is responsible.

Another recent innovation is the short 3 weeks' courses at the Small Arms School for officers of over 9 years' service, to free the combined courses for the more junior officers who have to teach weapon training in their units. The congestion of senior captains who had to qualify at the Small Arms School before promotion was entirely due to the war; every officer should go through the Small Arms School as soon after he has 3 years' service as possible—or even before then.

* * * * *

The M. C. Cricket eleven continue on their unbeaten career and, as was anticipated, the Army eleven was unable to put up very much opposition to them in Lahore, especially as the match was played so early in the cold weather when serious cricket in the Punjab has hardly started. Some of the Indian elevens, further south, have, however, done sufficiently well to put the tourists on their mettle and some fine cricket has resulted.

THE ACTION OF THE CAVALRY IN THE ADVANCE ON MOSUL.

BY CAPTAIN A. V. HAMMOND.

IN the middle of October 1918 the Turkish force on the Tigris front was estimated to consist of the 2nd and 14th Divisions of the Sixth Army and to be disposed as follows (*vide* Map 1).

(a). Holding the Fatha position on both banks of the river,
2,620 rifles.

68 machine guns.

28 guns.

90 sabres.

(b). Holding the Bel Alij-Ain Dibs—Lesser Zab position,
2,910 rifles.

64 machine guns.

14 guns.

30 sabres.

(c). At Sherqat.

200 rifles.

This force was being reinforced by the 5th Division which was expected to arrive about Fatha on the 26th October.

Opposed to these we had assembled the First Corps, consisting of the 17th and 18th Divisions and attached troops.

That is a total of 6 Infantry Brigades, 4 Field, 2 Garrison, and 1 Indian Mountain Artillery Brigades and the 7th and 11th Cavalry Brigades.

Each Infantry Brigade had been reduced by one Indian Battalion and all units were below strength owing to an epidemic of influenza. The Horse Artillery Batteries with the Cavalry Brigades were equipped with 18-pdrs. with teams of 8 horses.

The Turks also had a force of

2,240 rifles,

42 machine guns,

30 guns,

330 sabres,

on the Kirkuk-Altun Kupri line.

First Corps orders issued on the 18th October clearly indicated the general intention, the salient points of which were :—

Firstly, that a column detailed by Third Corps was to co-operate in the direction of Kirkuk and Altun Kupri, so as to contain as many enemy as possible on that line and prevent the Turkish-Kirkuk group moving down the left bank of the Lesser Zab against the right flank of the First Corps.

This column consisted of—

3 Squadrons of Cavalry,

1 Field Artillery Battery,

2 Battalions of Infantry,

1 Light Armoured Motor Battery.

Secondly, that the main operation, to be carried out by the First Corps and attached troops, was to commence with an attack on the enemy holding the Fatha position, with a view to securing the passages of the Fatha gorge, preparatory to advancing to the line of the Lesser Zab.

This was to be carried out on the morning of the 24th October by the 18th Division attacking the enemy holding the left bank, with the 7th Cavalry Brigade co-operating to the North of the Jebel Hamrin, so as to take the enemy in reverse. The 17th Division was to operate on the right bank, to facilitate the task of the 18th Division and 7th Cavalry Brigade.

Prior to the issue of these orders, General Cassels, Commanding the 11th Cavalry Brigade, had personally reconnoitred both banks of

the Tigris. As a result it had been decided, owing to the absence of water on the right bank away from the river and the inaccessibility of the latter for some 40 to 50 miles, that the employment of the 11th Cavalry Brigade against the enemy's right and rear was not practicable. It was found, on the other hand, that there were comparatively no water difficulties on the left bank, while the country between the Jebel Hamrin and the Lesser Zab presented no obstacles to movement.

In view of the above the 11th Cavalry Brigade was given a special mission, instructions regarding which were issued on the 21st October and were to the following effect.

The Brigade was to move from Ain Nukhailah on the night of the 23rd-24th October so as to reach the Lesser Zab about Sadiyah on the 24th. On the 25th it was to operate down the Lesser Zab with the object of assisting the First Corps operations by intercepting movement to or from the left wing of the enemy Tigris group and by helping to obtain a bridgehead over the Lesser Zab, preparatory to the arrival of First Corps.

Although this was as far as the instructions actually went, the Brigade Commander knew that he might be called upon to cross the Tigris above Sherqat any time after the 25th.

In the meanwhile the 11th Cavalry Brigade had, on the 6th October, marched on operation scale without tents from Sheikh Habib on the Euphrates and, moving *via* Baghdad up the right bank of the Tigris, crossed it at Tekrit and went into bivouac opposite the town on the 22nd.

In order to increase mobility and radius of action a dump was formed at Tekrit consisting of all sick men and animals, the Kahars of the C. C. F. A., a portion of the Mobile Veterinary section, the Post Office and all kits carried in A. T. Carts. Utilizing the A. T. Carts thus obtained, it was found possible to carry the following rations when the Brigade marched on the 23rd October.

On the man and horse—the unexpired portion of the day's ration for man and horse and one day's emergency ration for man and horse. In the transport—two days for men and two days grain for animals with no fodder.

The First Corps also arranged to put in two days rations at Ain Nukhailah, one for issue on the 23rd and the other to be conveyed in Ford Vans to the Lesser Zab on the 24th.

A Local Purchase Officer with cash and an Arab guide with knowledge of the country between the Jebel Hamrin and the Lesser Zab were attached to the Brigade and a party of "killekchies," or local boatmen, was collected and detailed to march with the transport.

The water-supply at Ain Nukhailah had to be improved and in addition a certain amount was taken from the Tigris in Ford Vans. This was primarily intended for the use of the 7th Cavalry Brigade.

The Brigade marched from Tekrit for the Ain Nukhailah Pass, a distance of 32 miles, at 3 a.m. on the 23rd. It left again at 2 a.m. on the 24th having to march on foot down the Pass, watered at Garha and by 10-45 the Advanced Guard had reached Hajil. The wells at Garha were deep so that watering was a slow process, and, by the time the last squadrons' turn to water came, there was little left but mud and the horses would not drink. At Hajil the wells were less deep but here again the water was found to be bad and insufficient.

An aeroplane landed at Hajil and delivered a message from First Corps to the effect that the enemy had evacuated the Fatha position on both banks and that our troops were pushing forward. General Cassels, therefore, decided to push straight for Uthmaniyat on the Lesser Zab.

The Advanced Guard, consisting of the 7th Hussars, 5th Field Troop, 1 Section W. Battery, R. H. A., and 1 Section 25th Machine Gun Squadron, approached the ford at 2-45 p.m.

At first there appeared to be no enemy in the vicinity and one of our aeroplanes landed opposite the ford. It was greeted with heavy rifle and machine gun fire from the right bank at 600 yards range, but the pilot and observer escaped unhurt.

The enemy now also disclosed 4 field guns and it was evident that the ford was held in some strength. The presence of this enemy detachment was unexpected but, as it was equally clear that they also were surprised and as it was getting late, General Cassels decided to force a crossing at once.

By 3-45 p.m. a difficult but practicable ford, $4\frac{1}{2}$ feet deep was discovered about one mile below the recognised one. The section

of W. Battery engaged the enemy and, under cover of this fire, the 7th Hussars with a section of the Machine Gun Squadron were ordered to cross at the newly discovered ford.

At 4 p.m. another aeroplane arrived and proceeded to spot for the Artillery and by half-past four the 7th Hussars had crossed and, having again a footing on the bluffs on the right bank, started to work round the enemy's right. This movement, combined with the accuracy of our gun fire, proved too much for the Turks who commenced to withdraw in a north-westerly direction, leaving a detachment which was engaged with the 7th Hussars until after dark.

In this engagement the strength of the enemy was estimated at 800 infantry with machine guns, 4 guns and some cavalry. Our casualties amounted to 2 killed and 11 wounded, all of the 7th Hussars on the right bank.

The main body began to arrive at six o'clock, by which time it was getting dark, and went into bivouac on the left bank opposite the 7th Hussars who maintained a bridgehead on the right bank. The transport remained under escort at Hajil and at 11 p.m. a report was received that the ford convoy was held up by an obstacle some two miles from the Brigade and would remain there until next morning.

The day's march was estimated at from 45 to 50 miles. In addition to the discomfort caused by the shortage of water already mentioned, no smoking had been allowed all day for fear of setting on fire the long grass which covered this part of the country. In spite of the time of year the heat was considerable.

On the 25th October a column from the 11th Cavalry Brigade reconnoitred westwards towards the Tigris where it met the 7th Cavalry Brigade, which had crossed the Lesser Zab near the junction of the two rivers. Neither Brigade met with any opposition as the Turks had entirely evacuated the Lesser Zab and the left bank of the Tigris.

The remainder of the 11th Cavalry Brigade was employed in improving the ford at Uthmaniyat. The water at this ford was only 3 feet deep with a hard bottom but the approaches on both banks were very heavy going owing to deep sand, and the cliffs on the right bank needed ramping.

At about 9 a.m., orders were received from First Corps for the Brigade to move to the ford which was believed to exist about 13 miles above Sherqat, to intercept the enemy's retreat.

At the same time a column from the 18th Division was to move direct to Sherqat left bank—but this move was later cancelled. The 17th Division was to gain ground during the night and pursue on the right bank.

By 6-30 a. m. on the 26th the 11th Cavalry Brigade, having crossed the Lesser Zab, assembled on the right bank and marched off in a north-westerly direction. One driver with 12 horses and 2 caissons, 1 L. G. S. Wagon and several packs were lost in crossing.

All empty carts, field kitchens and sick men and animals were sent back to the 18th Division and the Brigade now only had rations up to and for the 27th (the next day).

While on the march news was received that the Third Corps column had occupied Kirkuk; that the 7th Cavalry was opposite Humr at 8-30 and that the left bank of the Tigris was clear of the enemy up to 15 miles, north of Sherqat.

At 11 o'clock the Brigade halted and fed but no water was found *en route*.

At 1 o'clock an aeroplane reported that the L. A. M. Brigade was astride the Mosul road, north of Sherqat on the right bank, and had cut the telegraph wire. On the subsequent days the greater part of this L. A. M. Brigade remained well out in the desert on the flank to watch for any movement of the enemy to try and escape that way.

By 3-30 p.m., a ford was found about 4 miles, north of Huwaish. It was a very difficult one and entailed crossing four branches of the river, the last being nearly 5 feet deep with a very swift current. This washed the men down-stream and it was difficult to keep the horses trying to go straight across. Several men and horses of the 11th, and later of the 7th Cavalry Brigade were drowned.

By half past four the Guides had crossed and found a Turkish hospital in a building with four medical officers and 80 sick; a small guard was left to take it over.

General Cassels accompanied the Guides at the gallop to Huwaish Gorge, having left instructions for the 23rd Cavalry, the Machine Gun Squadron and a Section of W. Battery, who were then engaged in crossing, to join him as soon as possible.

On reaching the Huwaish Gorge, the strength of the position was at once self-evident and he decided to hold it, for the night at any rate.

As will be seen from Map 2, the road from Sherqat to Mosul passes over the high ground, south of the Wadi el-Muabbah. From the high ground, north of the Wadi, about the word RUINS, the whole country south and south-westwards is visible for some three miles. The width of the Wadi at this point is eight to twelve hundred yards and the sides are steep, in fact impracticable for cavalry. Above the Wadi the high ground and the river curve away from each other leaving a low cultivated plateau about two miles in width by six in length. In October this was covered with patches of "Jowari" which served the double purpose of supplying fodder and giving cover to the artillery, reserves and led horses. Moreover, by holding this position any enemy trying to work round by the west would be driven a long way from water.

By 6-30 p.m., the troops which had crossed were disposed as under :—

Guides Cavalry	}	.. In position astride the Mosul road on
M. G. Sqn. (less 1 Sec.)		.. the north bank of the Wadi el Muabbah.
Section W. Battery		.. In action on the road to the north-east of Huwaish ruins.
23rd Cavalry	}	.. In reserve behind the bluff to the
1 Sec. M. G. Squadron		.. north-west of the ruins.
Brigade H.-Q.		.. At the ruins.

The remainder of the Brigade remained for the night on the left bank opposite the ford, where the transport column arrived at 8 p.m.

At 9-40 p.m. a wireless message was sent to First Corps saying that General Cassels proposed advancing down the right bank of the Tigris the next day and that he felt confident, if the 17th Division's advance was pressed, that the Turkish force on the right bank would cease to exist by the evening next day.

At that time General Cassels had had no news from First Corps, but, half-an-hour after midnight, he received a message to the effect that the right bank attack had made no progress on the 26th and that air reconnaissances tended to show that the Turkish reinforcements from Arbil had crossed the Tigris and were in the Sherqat area.

Early on the 27th the remainder of the fighting troops of the Brigade crossed the ford. The non-fighting portion remained on the left bank under escort of one Squadron of the 7th Hussars.

At 6 a.m., a Squadron of the 23rd Cavalry was despatched to make a preliminary reconnaissance to the south. They bumped into the enemy almost immediately in position about $2\frac{1}{2}$ miles, south of Huwaish. Their strength was estimated at 4-500 infantry with machine guns and at least 3 guns.

General Cassels decided to attack the enemy as soon as his guns had got into action and he had received some news from his contact aeroplane which he was expecting.

His main object in deciding to attack was to make the enemy disclose his strength and dispositions and to conceal his own weakness. He hoped also, in the event of being able to eject the enemy from his position, to hold the same as his forward line, with the Huwaish Gorge as his main one.

At 7-45 a.m., an aeroplane dropped a message containing First Corps orders for the 27th (timed 19-20 hours 26th). According to these the 17th Division was to attack vigorously on the 27th being assisted by fire from the left bank by the 18th Division, and the 7th Cavalry Brigade was to move to Shuramiyah to Corps Reserve.

About 8 o'clock air reports indicated that there was a general movement on the part of the enemy towards Sherqat from the Humr-Ain Dibs position which looked as if they had abandoned it during the night; that a large portion of the enemy had already collected at, or some four miles south of Sherqat and that some 500 Infantry and guns were astride the road, $2\frac{1}{2}$ miles south of Huwaish.

By midday it was reported that 3,000 Turks were already at Sherqat. At the same time a report was received that enemy infantry, about 400 strong with 2 camel guns, were advancing south along the Mosul road and were about five miles north of Shahalah (Map 2).

A Squadron of the 7th Hussars was sent to hold up this detachment.

Meanwhile the whole of W. Battery had got into action and, at 12-30, the 23rd Cavalry, accompanied by a section of the Machine Gun Squadron, attacked the enemy, $2\frac{1}{2}$ miles south of Huwaish.

The Turks disclosed their position and it was evident that their strength had been under-estimated. There were at least 800 to 1,000 with machine guns and four guns. The 23rd Cavalry were accordingly ordered to withdraw and returned to reserve with the 7th Hussars.

The rest of the day passed quietly, as neither side was strong enough to attack.

At 9-30 p.m., a message was received from General Sanders, Commanding the 18th Divisional Column marching up the left bank, stating that he intended marching all night and that 18-pdr. ammunition had been sent ahead. This column consisted of—

- 1 Infantry Brigade.
- 2 Troops Cavalry.
- 2 60-pdrs.
- 2 4·5" Howitzers.
- 1 Battery 18-pdr.

Half-an-hour later, a wireless message was received from First Corps stating that, if pressed, General Cassels was to call upon General Sanders for infantry and that the 7th Cavalry Brigade was being sent to reinforce him the next day.

On receiving this, General Cassels sent a message to General Sanders. In it he gave three alternatives which he considered were open to the enemy :—

To escape to the East across the Tigris.

To hold him off and meet the 17th Division's attack.

To leave a rearguard to hold off the 17th Division and break through him (General Cassels).

Of these, he considered that the last was the most likely.

He then asked for the 18-pdr. ammunition as soon as possible and for infantry if they could be spared.

The night passed quietly and dismounted patrols, pushed south, reported no movement on the part of the enemy towards the north or north-west.

The ration arrangements on this day were as follows :—

A ferry, consisting of one raft and one small captured boat, had been completed at 9 a.m. about 2 miles, north-east of Huwaish. Some sheep were purchased locally, cooked by unit ration parties at ferry left bank and subsequently ferried across together with grain for the animals. Some *jowari* was also purchased, cut and given to the animals as opportunity offered during the day. In spite of this the troops, next day, were on half their emergency rations.

At 6-20 a.m. on the 28th, visual communication was established with the 18th Divisional Column, which was then at the ruins, 2 miles south-east of Huwaish on the left bank. At the same time, 836 rounds of 18-pdr. ammunition arrived at the ferry.

At 7 o'clock the Turkish Infantry, extended on a front of some 700 yards with their right on the river, were seen advancing north, directly against the Huwaish position.

About the same time news was received from the Squadron one mile north-west of Jirnaf, that the enemy was advancing and had started working round it's left. This Squadron was reinforced by two troops and three Armoured Cars.

At 7-20 the enemy opened fire with his field guns and 4-2" Howitzers both on the 11th Cavalry Brigade's position and on General Sanders' Column, apparently with good effect.

Meanwhile the hostile infantry advance had continued slowly and, at 8 o'clock, the 7th Hussars (less 6 troops) were ordered to counter-attack by approaching the enemy's left under cover of the Wadi el Muabbah for about a mile and then up a branch *nullah*. This counter-attack caused the Turkish left to withdraw and one Squadron got to within 150 yards of the Turkish guns. At the same time the fire of W. Battery and General Sanders' guns held the enemy in front so that, at 9-30, General Cassels was able to conclude a situation report to First Corps with the words "if he (the enemy) is trying to break through me with the bulk of his force he cannot do it."

By 11 o'clock, some 3,000 Turks had commenced to work round the right flank some $2\frac{1}{2}$ miles south-west of the position. The 7th Hussars, having returned, were ordered to extend the line to the north-west, covering the guns, thus forming a refused flank. At 12-15 the 23rd Cavalry were ordered to extend the right further to the north-west and get into touch with the 7th Hussar detachment which was watching the Turks from the north. At half-past one a Ford convoy with rations and the pontoons arrived at the ferry and, at 2 p.m., the leading company of the 1/7th Gurkhas. This company was despatched to relieve two Squadrons of the Guides which were sent off at once to reinforce the 7th Hussars, who asked for help to meet an attack against their flank.

At 2-45 p.m. the remainder of the 1/7th Gurkhas arrived and relieved the remaining two Squadrons of the Guides which, in turn, relieved the 7th Hussars who went into reserve.

By 4-15 p.m. the 7th Cavalry Brigade had arrived at the ford and commenced crossing, but V. Battery remained on the left bank. General Norton was asked by General Cassels to piquet the enemy's Northern detachment during the night, the bulk of his Brigade being kept in reserve, and to be prepared, first thing next morning, to dispose of the above-mentioned detachment and then co-operate on the right flank.

The Turkish guns, estimated at about 24, contrary to their usual practice of husbanding ammunition, kept up a steady fire all day, especially against the refused flank which lent itself to being enfiladed.

During the night the enemy displayed much activity all along the line but failed to press any attack home, although in places they got to within 100 yards of our line.

By 7 a.m., on the 29th the 1/39th Garhwal Rifles had crossed over the river and were ordered to relieve the 23rd Cavalry and the Guides. At 8 o'clock, A/337 Battery came up and was sent to join the 7th Cavalry Brigade and an hour later, C/337 arrived and joined the 11th Cavalry Brigade.

At the same time an aeroplane report was received to the effect that the nearest troops of the 17th Division were only $2\frac{1}{2}$ -3 miles to the south. This was confirmed at 10 o'clock but as, at the same time, it was stated that there were no enemy movements within a radius of 15 miles north, north-west or west it was decided that the troops seen by the aeroplane must be the main Turkish army and not the 17th Division.

At 10-30, General Norton reported that his Brigade was held up by heavy machine gun fire and that he was engaged in clearing the hills with his guns. It was not until about midday that the 13th Hussars, under the covering fire of guns, machine guns and rifles, were able to gallop to the foot of the bluffs where they dismounted and, attacking on foot, disposed of the Turkish Northern detachment by a bayonet charge. In this action, 985 prisoners, 12 machine guns and 2 camel guns were captured, showing that the original strength of this force had been under-estimated. The 7th Cavalry Brigade then turned southwards and took up a north-west south-east line in the desert about one mile, south of the ford.

During this day the Turkish guns, which had been so active from the south on the 28th, remained absolutely silent, possibly because they had been switched off on to the 17th Division, but, from what was learnt afterwards, more probably because they had run out of ammunition.

At 3-30 p.m. the 17th Division, coming up from the south, attacked the Turks facing them, but the attack was not completely successful and the Division was counter-attacked at 5 p.m.

At 5-15 p.m. the 1/3 Gurkhas arrived and went into reserve.

The night was much quieter than the previous one although there was intermittent firing.

At 3-15 a.m. on the 30th, a message was received from First Corps stating that the 17th Division could not resume the offensive until the afternoon. General Cassels, therefore, planned to roll up the Turks facing him by attacking their left with the 1/3 Gurkhas, while the 7th Cavalry Brigade continued to sweep round to the south behind them, subsequently falling on the rear of the Turks opposing the 17th Division. At 6-30, just as this operation was starting white flags were observed to the south and it became evident soon afterwards that all the Turks opposite were surrendering. A general advance of the Infantry with the 11th Cavalry Brigade in reserve was ordered with the intention of pressing the Turks facing the 17th Division, but at 8-15 a.m., information was received that these also had surrendered.

The total captures were, approximately :—

11,300 men.

51 guns.

130 machine guns.

2,000 animals.

3 steamers

and large stocks of material and supplies at Qaiyarah.

APPENDIX.

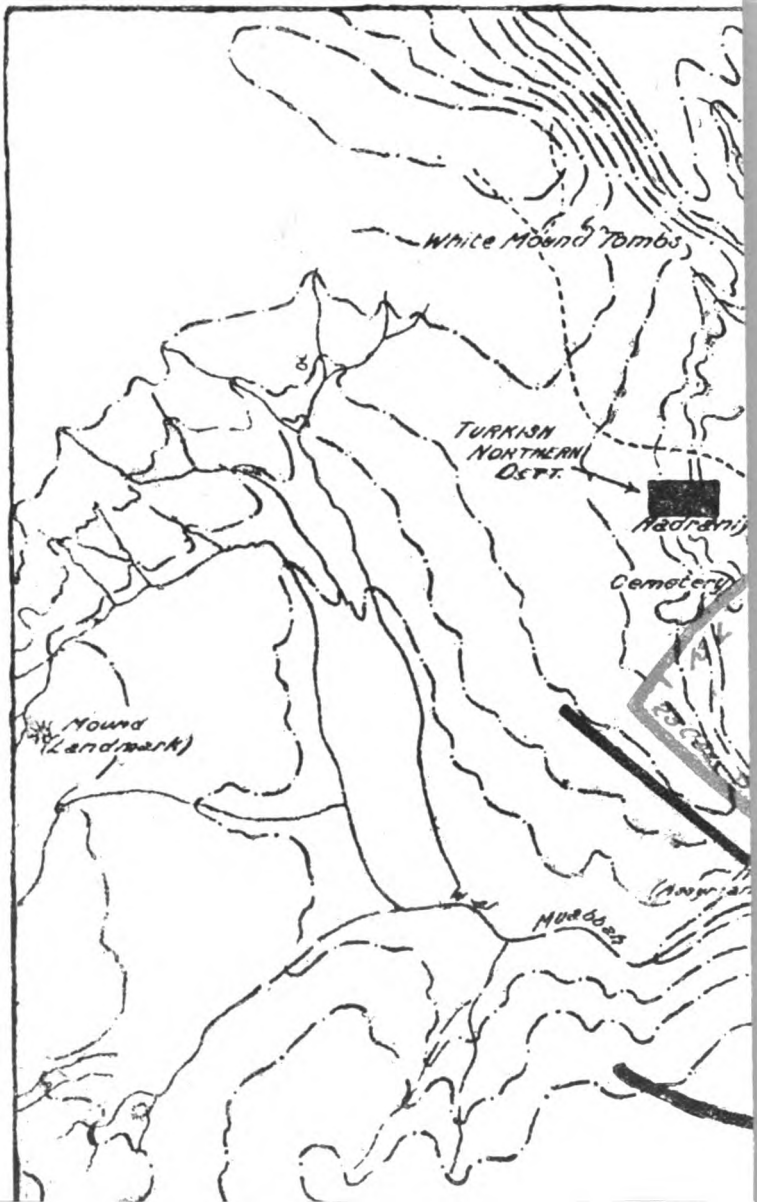
Statement of Marches, Animal Casualties and Rations in the 11th Cavalry Brigade.

Date.	Destination.	Miles.	REMARKS.
23-10-18 ..	Ain Nukhailah	32	Full grain and half <i>bhoosa</i> .
24-10-18 ..	Uthmaniyat ..	50	
25-10-18 ..	Tigris and back (part of Bde.)	30	
26-10-18 ..	Huwaish ..	35	
27-10-18 to 30-10-18.	No marching	..	Half grain. About 8 lbs. <i>bhoosa</i> for the 4 days and 2 to 3 lbs. <i>jowari</i> daily. Watering irregular as opportunity allowed at a distance of $1\frac{1}{2}$ to 2 miles under distant M. G. and rifle fire.
31-10-18 ..	Qaiyarah ..	12	Full barley (from captures). No <i>bhoosa</i> , 1 lb. <i>jowari</i> .
1-11-18 ..	Hammam Ali	24	Half barley. Full <i>bhoosa</i> from Hammam Ali.
2-11-18 ..	Towards Mosul	7	Do.
3-11-18 ..	1 mile south of Mosul.	7	5 lbs. barley. No fodder.

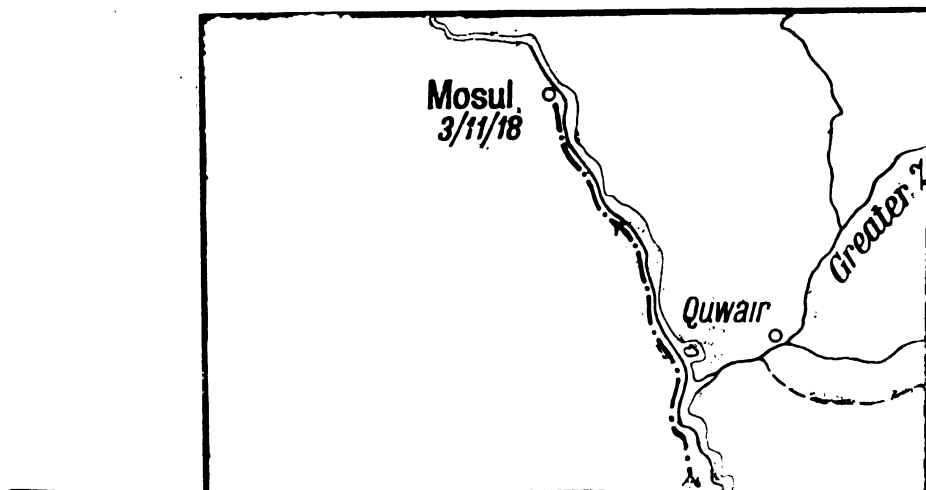
Pace—

A uniform pace of 5 m. p. h. was maintained by the Cavalry and R. H. A. The average pace of "A" Echelon Transport (L. G. S. Wagons) was 4 m. p. h. and of "B" Echelon (A. T. Carts) about 3 m. p. h.

SITUATION 0600 HRS







Casualties—

Battle.		Other casualties, died or destroyed.	
Killed	.. 110	Exhaustion	.. 20
Drowned	.. 17	Laminitis	.. 11
Missing	.. 47	Sprained tendon	.. 2
	<hr/> 174		<hr/> 33
Total dead wastage ..		.. 207	

Evacuated—

Wounded	.. 56	
Saddle gall	.. 100	
Laminitis	.. 40	
Debility	.. 39	
Sprains	.. 22	
Injuries	.. 13	
Lameness, ringbone, etc.	4	218
		<hr/> 274

In addition to the above there were 100 horses treated by the B. V. O. and remaining with the Brigade.

Condition—On 6th November 1918—

Cavalry Rides	.. Fairly good.
L. D. Horses	.. Poor.
Pack Horses	.. Very poor.
L. D. Mules	.. Good.
A. T. Mules	.. Very good.

THE DRESS OF THE HONOURABLE EAST INDIA COMPANY'S ARMY.

By

MAJOR-GENERAL SIR G. F. MACMUNN, K.C.B., K.C.S.I., D.S.O.

"Dress" in the military significance of the word has always fascinated many minds, and the patterns and fashions of old uniforms is a matter of unfailing interest to innumerable soldiers and others. A wealth of history and romance is bound up in the study. The Armies of India were well dressed forces in the days of John Company, and followed closely the fashions and regulations of the Royal Army, subject to the many variations of their armies and their considerable size. The officers of the Company were as well dressed as officers of the Crown, and till 1857, the head-dresses of Europe were also the head-dresses of India.

Unfortunately for those whom the subject interests, there is very little information extant on the subject, at Home or in India. The white ant and the paper bug have done their share, with the record burning babu, in destroying what should have been a most interesting collection of information. The Royal United Service Institution, with its wonderful and growing collection of surviving uniforms, has little of the uniforms of the Company's officer. Yet, the Grand Army of Lord Lake and the Marquis Hastings, are as worthy of perpetuation in this matter as those of Napoleon's Grand Army, which makes such delightful study in Les Invalides.

Till a short time before the war, a leather chakoe of a Madras Infantry private was all that represented India in the Institution's cases. In 1912 it was my fortune to notice a chakoe in an antique dealer's window across the road in George Street, Edinburgh. Eagerly crossing the street, (for to me the romance of our military record is closely connected with our old uniforms) I found a chakoe bearing the plate of the 45th Bengal Native Infantry. Entering the shop, I examined the hat, and the dealer told me he had recently purchased the complete uniform at a sale of an old lady's effects in, I think, Cumberland. I found the chakoe was of top hat silk, with leather top and frontlet or peak. It was also brand new, and the date was obviously early in the fifties, for the plate had the

battle honours of the Punjab campaign, Chillianwallah, and the like. The kit included two coatees also new, with light infantry wings and Grenadier epaulettes, and among them a light company, and centre company chakoe-tuft, green for the Light Infantry, red and white for the centre companies. There was a shell jacket and forage cap, and sword sling with breast plate. The japanned chakoe case bore the name "Captain Fraser, 45th Bengal Native Infantry." It looked as if it had never gone to India, after leaving the tailors. The Royal United Service Institution, to whom I communicated my find, bought most of the kit, and it now hangs in their museum, almost the only relic of the great army of John Company, with the exception of a Light Cavalry jacket of French grey and silver pattern about 1845 recently added.

The Royal Artillery Institution at Woolwich also contains a specimen of those wonderful helmets which the Horse Artillery of the Bengal, Madras and Bombay armies wore in full dress. The Bengal Horse Artillery helmet was of brass, with a crimson horse hair plume, and a roll of tiger skin as a *puggaree*. Years ago I met General Alfred Light, a famous Bengal Artillery man, and he told me that he marched out of Meerut with Tombs' troop of Horse Artillery, at the end of May 1857, *en route* to the Hindun, to join the Commander-in-Chief who was marching on rebel Delhi, and they wore those brazen helmets, and their dress jackets with leather breeches and high boots. A mile outside Meerut, Tombs halted his troop, and ordered the men to take out their jack knives, and rip off their high red collars, and everyone thought the world was coming to an end!

A week later they wore nothing but cotton dyed khaki with mud—Meerut in May! Phew!

Except for those exhibits that I have mentioned, I know nowhere of any specimens of the dress of John Company's Army, though, no doubt they still exist in the long tin cases in the lumber rooms of old families. I should like to see the plumed chakoe as well as the French grey jacket of a light cavalryman. Perhaps someone who reads this may produce one. A memorial in white marble in the church in Fort St. George, Madras, shews the complete kit.

There are few prints which produce the dress of the Indian Army with any accuracy. Perhaps the most interesting is that of a coloured print called "A Coffee Party," of which the only copy I have

seen is in the United Service Institution of India. It represents a party of officers of the Bengal Army having "Chota Hazri" on the raised plinth outside a bungalow or mess-house, date about the forties. Sitting or standing at a table, is an officer of Light Cavalry in a foraging cap, dress jacket and overalls of French grey. An irregular Cavalry officer, with a long beard, reads the paper, and a line officer and young subaltern of engineers, with a doctor or veterinary surgeon, or perhaps a magistrate in plain clothes, completes the party. An officer of Bengal Horse Artillery, in full dress, with his brass helmet on, is mounting a Gulf Arab of great ferocity, while in the distance are lines and troops drilling. It is a pleasing picture of typical military life. Then we have a few coloured prints after Maartens, that are to be obtained, at times, from print dealers and of which the Royal United Service Institution has a complete set among the models, in its basement showroom, in Whitehall. They are all about 1845 and 1846 date.

Among the most interesting is that of an officer of the Bombay Horse Artillery, in his crested helmet and full dress, prancing outside the gate of Ahmednagar fort, then the headquarters of the Bombay Artillery. The actual figure is a well known riding master of the corps. A figure of an officer of the 5th Bengal Light Cavalry in silver-laced grey jacket, with a plumed chakoe is another. He is leading a charge, and in the background his men, also in chakoes, are charging Afghan tribesmen. It shows the details of this wonderful dress very clearly. I have seen a large oil painting of an officer of the 7th Light Cavalry, which proves to be a copy of this print, the features, medals and number of unit on sabretache being altered to make it a portrait.

There is also a plate of the 35th Bengal Native Infantry, showing an officer in full dress, exactly as the uniform found in George Street, and another in the frock coat and white overalls of the period.

This set, and some of the Madras Army of a few years earlier by William Hunsley, are all that appear to exist as distinct from the battle pictures which do not show detail of dress. They all apply to the Victorian period, prior to the mutiny of the Bengal Army, which date, practically coincided with the change from the old coatee, and shell jacket, to the modern tunic.

Incidentally, it may be here remarked, that it is strange, that while the Navy and the Indian Civil Service have not changed their

dress, but still wear the coatee of the thirties, which was but a reproduction of the civilian dress of the day, the Army has changed constantly. This, however, is due to the fact that the Navy did not fight in their full dress, while the Army did, and hence the latter's attempt to make the full dress also a fighting dress, which brought in the loose tunic. This eventually had to give way to commonsense, and the khaki jacket, while the Navy and Civil Service, only wanting theirs for gala occasions found no need to change for close on a century.

There being so few examples of the dress of the Indian Army, till those of the Maarten prints, it was, with great interest, that I recently began to examine some old dress records of the Madras Headquarters Officers at Ootacamund, but which have not been overhauled since that date. To my delight I found many original drawings of all sorts and kinds, dating from 1808 till about 1870, and shewing, in colour, cavalry coats, and jackets, helmets, undress caps, spurs, boots, sabres of all kinds and periods, infantry chakoes and caps of all kinds, coatees, epaulettes, wings, and devices, in a detail and profusion that have never before been available in modern times, and which I know of nowhere else. The find is of such great interest that I propose to enumerate the more important items here. The Government of India have now presented them to the Royal United Service Institution.

It should also be remembered that speaking generally, all the armies of the three presidencies wore the same, and that only numerals, devices, and facings varied, so far as the regular troops of the line are concerned, and that, therefore, these "finds" give us complete details for all the kit of the Army of John Company.

We will first of all take the regular cavalry of the Madras Army, of which, in its early days there have up to now been no dress records, or only the rare text of the Army Orders. From before 1794 to 1857 there were eight regiments, the eighth was disbanded in 1857 for refusing to march to Bengal, and the 5th, 6th, and 7th were disbanded in 1869, with the general post-mutiny reductions, and the doubling of the British garrison.

In 1794 the uniform was to be a scarlet close jacket, white collar and cuffs, silver cords and silver chain epaulettes. The undress, to be a dark blue with same collar, cuffs and shoulder straps. This remained till 1801, when the facings were to be regimental, and officers were

to wear white pants and half boots, with round black hats, which we should call chakoes and regimental feathers.

In 1809, the jackets were to come down to the hip bone, swords were to be worn on a waist belt instead of on a shoulder belt, epaulettes to be "scale" pattern.

Now it is just the scarlet uniform and its details, that the old drawings, mostly on paper, bearing the water mark 1808 that we find portrayed. The interesting thing is that these regiments wore large black helmets, some of the British Dragoon pattern, some of a continental pattern. From the drawings there appear three varieties of helmets. First, a bearskin roll on top, and a coloured *puggaree*, secondly, a brass crest and red horse-hair waterfall, like a "Cuirassier," with tiger-skin roll, and the third variety plain black with silver chain and red horse-hair waterfall. But the astonishing point is, that the officers also wore a high, a very high chakoe in undress, of varying styles.

They may be tabulated :—

1st Cavalry	..High, straight, black felt	..Long black and gold lines wound four times round.
2nd Cavalry	..High, sloping, black tassel hanging on left side. Silver Crescent in front.	No lines.
3rd Cavalry	..High, sloping, black	..Silver line wound thrice round cap.
4th Cavalry	..Black fur, with sloping crimson top.	No lines.
5th Cavalry	..Black Morocco	..Black and cord lines looped.
6th Cavalry	..High, Black Velvet	..Silver lines wound thrice.
7th Cavalry	..No record.	
8th Cavalry	..Extravagantly shaped, very tall.	Gold bands at bottom, long silver lines looped over cap.

The scarlet jackets in full dress were laced, of the English Dragoon pattern, the colour of the lace being black, white or yellow, with a similar scarlet undress without lace. In 1813 the dress for all was

changed to dark blue, of the English pattern heavily laced, with varied facings. A very complete set of coloured drawings for the 2nd Cavalry is among these drawings. The Court of Directors did not, however, approve of this change, which presumably applied to all the regular Cavalry of the three Presidencies, for in 1818, they ordered French grey, as more economical, to be adopted universally. There are no drawings, but presumably this was the same jacket, afterwards changed to the shell jacket, heavily laced, that one sees in the Maartens picture of the 5th Bengal Light Cavalry in 1845.

The following changes are recorded :

1819. The Cavalry are designated Light Cavalry, and this presumably applied to all India, and in 1820, the officers are ordered to wear Light Dragoon belts, and pouches, etc., and a light chakoe is introduced in lieu of the helmets, and presumably the rather fantastic caps described above. The chakoe is presumably the same as that shown in drawings of 1845 of broad silver lace round both top and base, with peak in front and shaped at the back. In 1820 the sky blue trousers that remained in the Madras Cavalry, till the war put full dress in abeyance, was introduced. This dress of French grey, with sky blue trousers disappeared with the Mutiny in Bengal, where all the Light Cavalry mutinied, and in Bombay a year or so later when their regular Cavalry were converted to irregulars of "Silladar." In Madras the Light Cavalry has remained to this day, the four regiments being reduced to three in the eighties, and now with the reorganizing and grouping of the Indian Cavalry, which came with the post-war reorganization, have, to some extent, lost their identity, and gone into a universal line and will wear a cavalry dark blue, so far as mess kit goes. When full dress reappears that will, no doubt, also be dark blue, of the *lungi* and *kurta*, or irregular variety. Two of the actual old units remain, and one is amalgamated.

The cavalry sabre shewn in the 1808 drawings is very long and very curved, with black leather scabbard and steel mounts.

The Infantry.

The Infantry of the Madras line had been steadily increasing since 1759 when the independent companies of guards were formed into 5 battalions increasing to 10 in 1765, and to 16 in 1767 winning undying fame in Coote's first campaign, and crowning victory over Lally at Wandewash. By 1796 these had risen to 34 single battalion regiments, when consequent on the first capture of Seringapatam

by Lord Cornwallis, there was a large reduction and reorganization, and 11 two-battalion regiments formed—shortly after increased to 12. The first 10 battalions became the 1st battalions, and second 10 the 2nd battalions, the 11th and 12th regiments being formed of the 25th and 29th, and 33rd and 34th respectively.

Further war soon called for increase, according to that inevitable law, that no sooner are armies reduced than fate calls for more. By 1807 there were 25 ten battalion regiments, and in 1824, the ten battalion system was changed again, and 51 battalion regiments formed, the old numbers having been given to those who were entitled to them. By 1825 the line had increased to 52 single battalions regiments, at which it remained till after the Mutiny—when gradual reductions, beginning at the youngest reduced the total to 32.

The annexation of Upper Burma brought some reorganization when certain Madras regiments were localized in Burma and recruited in Northern India, losing their real connections with the Coast Army—while the reorganization of Lord Kitchener's time brought the infantry of the Presidential armies into one general line. The Madras regiments then received numbers from 61 onwards—while many were reconstituted as Punjabis, and except for a record of early victories, lost all real touch with the old Coast Army.

Since the war the Carnatic regiments, as they have been again very suitably called during the last few years, have dwindled to two groups, *viz.*, the 1st Madras Regiment of Pioneers of 3 battalions, (the old 61st, 64th and 81st), and the 3rd Madras Regiment, of 4 service battalions and 1 training battalion (*viz.*, the old 73rd, 75th, 79th, 83rd, 86th). But the 1st and 2nd Punjab regiments of the new grouping contain 10 of the old Coast Army Regiments reconstituted in Lord Kitchener's time. The 1st contains the 62nd, 66th, 76th, 82nd and 84th (The Training Battalion) and the 2nd, the 67th, 69th, 72nd, 74th and 87th (The Training Battalion).

That is to say 18 of the old battalions of the 1826 organization remain and eight of them are still recruited in the Carnatic. As an instance of the old connection, Lieut.-General Tyrrel writing in the "*Spectator*" in June '23, says that when he joined in 1857, the subadar-major had been a regimental boy in Sir Arthur Wellesley's Army of 1803, the senior subadar had carried a musket at Mehidpur in 1817 and that one of his naiks was a grandson of one of Tippu's soldiers, and full of stories of Tippu.

The dress of the Madras Army was always a red coat of some kind, with a *puggaree* tied on a frame to resemble a *chakoe*. The object in the beginning was to prevent the enemy knowing whether the line opposite was European or Indian.

The records of dress now brought to light contain details of officers' dress from about 1808 and of rank and file dress of all kinds, from the thirties onwards, and with these drawings we have practically complete information for the other Presidential armies. The principal point of interest in the 1808-1810 old drawings are the *chakoes*, epaulettes, and sabres. The details of these are very complete, some if not all the *chakoes* being of goat-skin with the hair on, changing no doubt to beaver, and then to top-hat silk as in the case of the "George Street" one of 1850. The *chakoes* of 1850 of all ranks are shewn, including European staff-sergeants and Christian drummers and bandsmen, the latter with horse-hair plumes. A large drawing shows the black turban of the rank and file, made up somewhat like a *chakoe* on a frame, with a large brass knob atop and chin chain on the front, with other ornaments in addition for the native officers.

The following is a list of 1808-1815 drawings extant, mostly coloured :—

- | | |
|-----------------------------|--|
| 8th Infantry | ..Chain epaulette helmet badge sabre. |
| 1-10th Infantry | ..Large size coloured <i>chakoe</i> drawing with all dimensions, wing and cap badge. (These are framed in the U. S. I. of India). |
| 2-11th Infantry | .. <i>Chakoe</i> with frontlet (Peninsular pattern) hackle at side L. I. wing and epaulettes, <i>chakoe</i> badge and sabre. |
| 1-12th Infantry | ..Coloured drawing of Grenadier's skin cap. (These are framed in the U. S. I. of India). |
| 1-16th Infantry | .. <i>Chakoe</i> 1811—a tall type with no leather front, but large peak—hackle at front crown and numeral in lieu of <i>chakoe</i> plate, chain epaulette. |
| 17th (later 34th) Infantry. | .. <i>Chakoe</i> only—about 1820—somewhat sloping lined with silver line. |
| 2-21st (42nd) Infantry. | .. <i>Chakoe</i> —epaulettes, sabres, <i>chakoe</i> very fully drawn and coloured. |
| 1-25th (49th) Infantry | ..Cap badge and breast plate, 1810. |

The more recent drawings—viz., from 1840-1857—are as follows, those of 39th and 50th regiments being specially complete.

8th	..Breast plate and badges, 1843.
10th	..Cap plate, 1848.
11th (originally 2-9th)	Full and all dress cap ornaments, 1843.
14th	..Cap ornaments, epaulette, under shoulder strap and full detail of rank and file coater, 1848.
17th	..Cap ornaments.
18th (2-10th)	..Light W. Wing, epaulette, shoulder strap badge, 1848.
22nd	..Badges, belt plate, sepoy wing, 1848.
27th	..Chakoe, coater of rank and file badges, 1850.
31st	..Epaulettes Officers' skirt embroidery, badges, 1848.
34th	..Epaulettes, wing, cap ornaments, 1843.
35th	..Highly coloured drawings of coates, epaulettes, etc., 1850.
36th	..Officer's shirt and collar lacing, cap ornaments, 1848.
38th	..Epaulette, cap badge, Officer of Rifle Company jackets and pouch belt.
39th	..Complete drawing of chakoes, turbans, and all articles of uniform, 1851.
45th	} Badges and cap plates, 1860.
46th	
49th	..Button ornaments, lacing of skirts, etc., 1850.
50th	..Skirt lacing, cap badge, 1848.
51st	..Badge cap plates, 1848.
52nd	..Complete coloured drawing, chakoe-turbans, and all kits of all ranks, 1820.

Among the interesting points that are prominent is that the Crown appears on helmet plates and turban or cap badge, and the Royal cipher on many of the epaulettes showing that the Company's officers were really King's or Queen's officers too.

Knapsack Covers and Breast Plates.

Among the patterns is a book of knapsack designs dated 1824. These are the designs for the outside cover and are scarlet or green

ovals, painted on leather, with the number of the units painted in white letters. The examples given are—

I..Artillery.

1..Golaundaz (Native Artillery).

11—Europeans.

Rifle Corps—

XXXIV..Light Infantry.

XXV ..

A set of breast plate devices, hand drawn, in pen and ink are also among the drawings, dated 1826, for the following units—

10th	..2 Vet.
22nd	..3 Vet.
26th	..4 Vet.
42nd	} 4 Arty.
44th	

Madras European Infantry.

Sets of drawings, plain and coloured, were also found for the Madras Fusiliers, who became on the amalgamation, after the Mutiny, the Royal Dublin Fusiliers. Except for facings and devices, all the other Company's Europeans would be similarly dressed. These details, however, are only available for about 1850.

Among the Infantry records is a complete set (about 1850) of large scale plates and patterns for every garment and accoutrement, sword belt, epaulette, wings, shoulder cords, sword hilt, etc., of the Infantry officers, including rifle kit, shewing all details as regards lace, etc. There were many lithographed copies in excellent order, and the spare copies have been bound into an album by the Quartermaster-General in India and issued to Madras regiments or Indian Army officers, at Rs. 3-8 per album. They are the most complete copies extant, and a record of detail probably obtainable nowhere else.

Madras Artillery.

There are complete drawings of the Artillery dress both officers and men, European and native, about 1848. Complete details are given of all the dress accoutrements of the Horse Artillery including the famous crested helmet, and the old close laced jacket. Also a particularly minute drawing of the cuff skirts and collar of the officer

coatee, and of the rank and file, both European and Indian, of Horse and Fort Artillery, also large scale drawing of epaulettes, scale pouches, etc.

There is also a coloured drawing of Fort Artillery (rank and file) dress of 1843, showing the trumpeters in red, as was the rule of the day, for purposes of immediate recognition. This is framed in the U. S. I. of India.

The shell jacket and frock coat of subordinates of the Ordnance Department about 1850 are also among the Artillery drawings.

Madras Engineers.

Complete details and drawings are given of the dress of the officers of the Madras Engineers about 1848, which evidently followed that of the Royal Engineers including a cocked hat and plume. The interesting item of dress here is the heavily braided dark blue undress jacket of shell pattern.

Veteran Units.

It was long the custom to maintain veteran units, something after the style of Chelsea Hospital. These units were sometimes called veteran, sometimes "invalid," and the Company had built veteran barracks for their Europeans at Pallavaram, Chunar and Cherapoongi. Those wonderful barracks at Cherapoongi on the Himalaya were built in the thirties but whoever selected the site must have done so in the one or two winter months, when rain does not fall. Cherapoongi has the largest rainfall in India, and jutting out from the Himalaya into the plain of Bengal, it is but a target for every rain cloud. It is on record that the Bengal veterans soon were afflicted with advanced alcoholism induced by the climate, and the station was closed. The breast plates of the Madras veterans, presumably Indian, are shewn above. It will be remembered in the Mutiny, how the European Garrisons of Allahabad and Cawnpore consisted only of a few Artillery "invalids."

NOTES ON THE PREPARATION OF TACTICAL EXERCISES.

By

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The following notes are intended to amplify the instructions contained in Training and Manœuvre Regulations, and thus to assist officers in the preparation and conduct of Tactical Exercises for small forces.

These notes do not aspire to cover the ground as regards the preparation of schemes for Army Manœuvres or for the training of Higher Formations.

PART 1. (EXERCISES WITH TROOPS).

GENERAL CONSIDERATIONS.

1. Before commencing to prepare a tactical exercise the first essential is to be perfectly clear in one's own mind as to—

(a) The operation to be dealt with. (Attack, Defence, etc.).

(b) The purpose of the exercise and the specific lesson, or lessons, it is desired to bring out. (Training and Manœuvre Regulations, Section 15 (2) (i)).

2. *Lessons.*

(a) The object of a day's training with troops in the field is to practice them in the execution of certain phases of an operation of war.

(b) The person responsible for giving the troops and their leaders the maximum amount of instruction during the exercise is the officer who prepares the scheme and who conducts the exercise. (Training and Manœuvre Regulations, Section 15 (5). *viz.*, the Director.

(c) It is obvious that if the Director is to afford the troops the maximum of instruction he must be perfectly clear in his own mind as to what he is out to teach. If he does not himself know what he intends to teach the instructional value of his exercise is not likely to be great.

Hence, whether the force be large or small, a first essential is for the Framer of the scheme to crystallise in his own mind the specific lessons he desires to inculcate. (Training and Manœuvre Regulations, Section 15 (2) (i)).

3. *Selection of lessons.*

(a) In deciding on the lessons to be taught the tendency is to evade the issue and to generalise, viz., when a battalion is to be exercised in the attack the lessons to be inculcated are sometimes recorded on the schemes as "Infantry Training, Vol. 11, Section 036" or even "Infantry Training, Vol. 11, Chapter 111." The result of this is that neither the Director, nor his Assistants, have a clear cut idea of the specific phases of the attack which the day's training is designed to practice.

(b) The consequence of this vagueness of intention, is that the instruction given to the troops during, and on conclusion of, the exercise develops into haphazard criticism of various errors noticed. Hence at the end of the day nothing definite has been accomplished.

The instruction given has been confined to indiscriminate and unsystematic criticism of a multitude of incidents, great and small varying from the tactical prowess of the O. C. Force to the peccadillos of the signaller ever present on the most conspicuous sky line.

(c) It is suggested that this generalisation as to the lessons to be taught during an exercise leads to the minimum instructional results. (Training and Manœuvre Regulations, Section 15 (2) (i and ii).)

When sitting down to prepare a battalion attack exercise a C. O. should ask himself—

"What am I really out to teach primarily?"

4. The answer to this question might be—

(a) To practice subordinate leaders and the troops in the operation of—

(i) Replacing leading troops by supports and local reserves according to the demands of the situation. (Infantry Training, Vol. 11, 13 (9)).

(ii) Enlarging a gap by attacking the enemy in flank. (Infantry Training, Vol. 11, Sections 035 (14), 037 (9), and F. S. R., Vol. 11, Section 71 (5)).

OR

(b) To practice a Field Officer (acting as Battalion Commander) in solving the initial situation, issuing his orders as a result of his appreciation, and in handling the Battalion throughout the operation

in accordance with a development of the situation pre-arranged by the Director so as to bring out lessons on the lines indicated in (a) above.

OF

(c) To practice two Field Officers in commanding opposing sides.

5. (a) In the cases referred to in para. 4 (a) and (b) the Director will guide by means of a flagged or skeleton enemy the development of the situation in accordance with the lesson he means to teach (*vide* paras. 17 and 32).

(b) In the case of opposing forces (para. 4 (c), each Commander is allowed freedom of action within the limits of the scheme (*vide* para. 33).

6. (a) *Object of the exercise.*

The object of the scheme is therefore to produce a war problem, the solution of which will bring out a limited number of specific lessons.

The aim of the author should be to create a situation as nearly akin to war as possible and calculated to stir the imaginations of those carrying it out to visualise the moral and material condition of actual war, *viz.*,—Shell fire, Machine Gun and Rifle fire, Aviation, Tanks, fatigue, elation, depression, the unknown—in short the atmosphere of war. (Training and Manœuvre Regulations, Section 15 (2)).

(b) *Pitfalls.*

Before embarking on the creation of the scheme it is well to remember that it is essential that it must produce a war situation compatible with the exercise it is proposed to carry out, and on the right scale.

It is not uncommon to meet schemes which produce a situation which has little relation to the operation actually being carried out.

For instance one sometimes sees outposts as per F. S. R., Vol. II, Sections 55-59, practised under a scheme which produces a situation clearly demanding Battle Outposts, F. S. R., Vol. II, Section 60. Such faulty situations produce false lessons as to the application of the principles of Field Service Regulations.

PART II. (EXERCISES WITH TROOPS).

PREPARATION OF SCHEMES.

7. *Preliminary Steps.*

A preliminary step to the preparation of the scheme is from a study of the map, and from local knowledge, to select an area suitable for the exercise decided on.

If local knowledge of the general character of the country is absent, it is wise to have a general look over the country available before commencing to draft the scheme.

8. In selecting the area to be utilised the time and space factor must be borne in mind, *viz.*, the number of hours available for the exercise, the distance troops will have to march to the ground and administrative arrangements necessary for the feeding, etc., arrangements of the troops, should the exercise entail a long day out.

9. Having decided on the scope of the scheme, the primary lesson, or lessons, to be taught, and the area to be employed, you are in a position to draft the scheme indoors on the map, and to mark in provisional starting lines, objectives, dividing lines, etc.

SINGLE EXERCISES WITH TROOPS (*vide* PARAS. 4 (a) and (b) and 5 (a)).

10. *The Scheme.*

The scheme should be as short and as simple as possible.

It should consist of a statement known as "The opening situation" containing all the information that would be known in war to the Commander concerned.

11. The essentials in this statement are :--

- (a) A brief narrative of events leading up to the situation at the time operations are to commence.
- (b) Everything should be stated which would be known (in war to the Commander concerned) as to :—
 - (i) The situation and action of the enemy actually confronting the force carrying out the scheme.
 - (ii) The situation and location of covering and adjoining troops (directly affecting the problem).
 - (iii) The task of the force carrying out the scheme.
- (c) The detailed locations of the force carrying out the scheme at the time it comes under the order of the Commander concerned.

12. Reference para. 11 (a).

The statement introducing the situation often presents difficulties to officers. It is sometimes difficult to produce a realistic Military reason for an operation in which only (say) one Battalion is represented.

The temptation is to manœuvre Corps and Divisions so as to work down to a realistic scheme for a small force.

This is undesirable. It makes the opening situation unduly long, is apt to cloud the essentials of the exercise (*viz.*, Minor Tactical lessons for a small force) and has even led to embarrassing strategic discussions with higher formations, who may have good reason to fear the inculcation of false lessons from the handling of the Corps and Divisions introduced into the scheme.

13. Hence it is wiser to come to essentials as directly as possible.

For instance, for a Battalion Attack exercise an opening statement on the following general lines should suffice :—

“3rd Division advancing North against a retreating but unbeaten enemy of approximate equal strength. On June 2nd, 18th Infantry Brigade A. G. to 3rd Division moving from X *via* Y to Z. 19th Infantry Brigade marching at head of mainbody. (D. C. L. I. leading). Between 06-00 hours and 08-00 hours heavy firing heard from direction of A. G. but no enemy fire experienced by mainbody. At 08-00 hours, June 2nd, D. C. L. I. Headquarters at O issue following orders, (or “at 08-00 hours the following orders are received by D. C. L. I. Headquarters at O from Headquarters of 19th Brigade.”)

NOTE.—The alternative orders referred to above depends on whether the lessons intended come under para. 4 (a), or para. 4 (b).

In the first case the lessons concern only the execution of the exercise by the troops. Hence the Battalion order is contained in the scheme.

In the second case a lesson of the exercise is for the O. C., Battalion to solve the problem and to issue his orders.

Hence in this case the Brigade Order only is included in the scheme and it is for the O. C., Battalion to issue his own orders as a result of his appreciation of the situation.

14. Reference para. 11 (b).

Having introduced the situation the essentials referred to in para. 11 (b) are best conveyed in the form of an order. The scope of this

order will vary according to the purpose of the scheme as indicated in Note to para. 13.

15. It is instructive to set the problem in the form of an order (as suggested above). This method gives Leaders practice in writing orders and the recipients in quickly grasping their purport and in learning the form such orders should take.

It follows that these orders should be as perfect as possible, and should fulfil the precepts laid down in the Manuals for orders in general, and for the orders necessary for the specific operation being dealt with in the scheme.

This is often a weak point, and the orders as issued fail in such essentials as giving specific objectives to attacking troops, giving objectives without depth, etc., etc. (Training and Manœuvre Regulations, para. 16 (7)).

16. Reference para. 11 (c).

This information often may be attached conveniently as an Appendix to the Scheme.

17. *The Skeleton.*

Having drafted the scheme for the force to be exercised it remains to prepare instructions for the skeleton or flagged enemy.

18. This requires careful calculation as to the number of officers, N.-C. O.'s and men required and available, and of the number of flags required and whence obtainable.

19. The O. C., Skeleton must be carefully selected. Clear instructions must be prepared for him indicating:—

- (a) The lessons the scheme is intended to bring out.
- (b) The initial disposition he is to make and how he is to handle his force throughout the operation to bring out the desired lessons.
- (c) He should be given a copy of the scheme.

Hence his initiative is strictly limited and he must be made to realise that his sole duty is to bring about the situations desired by the Director. (Training and Manœuvre Regulations, Section 47).

20. *Visit to Ground.*

Having drafted the scheme and the instructions for the O. C., Skeleton, the next step is to visit the ground and to see how your projects fit in. Make such alterations as may be expedient, and think

out on the ground the solutions to the problems which arise. (Training and Manœuvre Regulations, Section 15 (2) (iii)).

21. *Completion of Scheme.*

The scheme can then finally be completed indoors. The principle lessons to be taught should be stated at the head of the scheme or in a statement attached to it. (Training and Manœuvre Regulations, Section 15 (2) (ii)).

22. *Re-visit to Ground.*

Before the exercise takes place the Director should again visit the ground accompanied this time by the O. C., Skeleton and the Umpires. He will then explain to them in detail the situations he wishes to produce and the lessons he proposes to teach.

NOTE.—During elementary periods of training it is wise to carry out the exercise with the Leaders only, before doing so with the troops. (Infantry Training Vol. I, Section 135) (10) and Training and Manœuvre Regulations, 40 (5)). This applies primarily to the exercise referred to in para. 4 (a).

23. *Assembly Orders.*

- (a) The assembly orders for the troops should be issued separately to the scheme. These orders should include instructions as to dress, transport, distinguishing marks, supply, probable time of return to barracks, etc.
- (b) Such orders as are likely to affect the troops during the operation should be put in the form of Notes at the foot of the scheme.

These Notes should include such subjects as how skeleton is represented and its dress—Out of bounds areas—Arbitrary line not to be crossed before a given time. (Training and Manœuvre Regulations, Section 38 (7) and (8)).

EXERCISES WITH OPPOSING FORCES (*vide* para. 4 (c) and 5 (b)).

24. *General Considerations.*

The same general principles apply to the preparation of the schemes as have been outlined above, with the following modifications and additions.

25. *Time and Space.*

Where opposing forces are involved careful consideration has to be given to the distance apart the opposing troops must be placed at the outset, so as to give each sufficient depth of manœuvre before they come into collision.

This must be considered in conjunction with the time available for the exercise the distance troops will have to march to assembly areas, and administrative problems as regards supply, watering of animals, etc.

It may be taken as an axiom that tired troops take little interest in training. Hence unduly long marches to assembly areas should be avoided as far as possible. This consideration should be given due weight when selecting assembly areas (*vide* para. 33).

26. *The Scheme.*

With opposing forces the scheme must be divided into :—

(a) *General Idea*.—"Frame of the Picture."

(b) *Special Idea*.—"The Picture itself."

(One for each side, issued to it confidentially).

27. *General Idea.*

(a) With small forces, where the object of the exercise is confined to minor tactical lessons, the General Idea should be brief.

(b) It will contain such information that would be known to both sides in war.

As it is issued to both sides, the General Idea must contain nothing that would not be common knowledge to both opposing commanders in war.

(c) Such manœuvre instructions *common to both sides* which are likely to affect the troops during the exercise should be inserted as Notes at the foot of the General Idea (*viz.*, Instruction reference Distinguishing marks, Out of Bounds areas, etc.—(Training and Manœuvre Regulations, Section 38 (8)).

28. *Special Idea.*

The Special Idea for each side should be framed on exactly the same lines as indicated in para. 11.

It should contain everything which the Commander concerned might reasonably be expected to know in war, but nothing more.

As uncertainty and surprise are integral features of every operation of war, care must be taken not to allow any information about the size, composition, assembly area, etc., of one side to appear in the Special Idea of the other. (This is not an uncommon mistake).

(b) *Manœuvre Notes* applicable only to one side should be inserted as a note at the foot of the Special Idea of the force concerned (*viz.*, Location of Arbitrary Line not to be crossed before a given hour, etc).

(Training and Manœuvre Regulation, Section 38 (7) and (8)).

29. *Common Errors*.—Reference paras. 23 (b), 27 (c) and 28 (b).

(a) It is a common mistake to find manœuvre Notes jumbled up indiscriminately in the text of the scheme.

The point to bear in mind is :—

(b) The scheme is designed to reproduce a war situation.

(c) *Manœuvre Notes* are merely instructions rendered necessary by manœuvre conditions.

Hence do not mix up the two things.

(d) For instance it does not conduce to an atmosphere of real war to find in the text of the Special Idea of one side that “ No damage is to be done to crops ” and that “ The village of X is out of bounds ” or that “ Five rounds of blank ammunition per man will be issued ” or that “ Dinner will be eaten on return to barracks.”

30. *Assembly Orders*.

These are issued apart from the scheme, as indicated in para. 23, but must be issued separately and confidentially to each side, so as to ensure the element of surprise referred to in para. 28. (Training and Manœuvre Regulations, Section 38 (8)).

PART III. (CONDUCT OF EXERCISES WITH TROOPS.)

31. *General*.

The same officer should not attempt to command and at the same time to direct an Exercise.

This method is apt to lead to false lessons and unreal situations.

For instance a Company Commander, during a Company attack exercise, walking about the front line in virtue of being the Director, and at the same time commanding the leading platoons in virtue of being the Company Commander, introduces a method of command

foreign to war, and evades the most difficult of all war problems, viz., Information and Communication.

(Training and Manœuvre Regulations, Section 37 (12)).

32. *Control.*

In exercises where only one side is represented the Director exerts control primarily through the handling of the Skeleton enemy and through the Umpires.

Hence it is all important that the Umpires and the O. C., Skeleton should have been carefully instructed on the ground prior to the exercise, as to the shape the operation is intended to take in order to bring out the required lessons (*vide* para. 17—19 and para. 22).

33. With opposing forces (especially small ones) the operations should as far as possible be allowed to develop naturally in accordance with the orders of the opposing Commanders.

A careful consideration of the time and space problem in selecting the distance apart of the assembly areas of the opposing forces (as indicated in para. 25) will do much to ensuring that the operation develops as intended.

Should it become necessary for the Director to intervene he can exercise control through the methods indicated in Training and Manœuvre Regulations, Section 39 (1).

34. *Conferences.*

The instructional value of all operations depends on the effectiveness of subsequent criticism.

Hence the Director must himself make systematic notes throughout the operation and ensure that the Umpires do likewise, and submit their criticisms to him on conclusion of the exercise and before the conference. (Training and Manœuvre Regulations, Section 39).

35. With small forces it is laid down in Training and Manœuvre Regulations that conferences should be held on the ground on the conclusion of the operation.

At this conference the Director should concentrate on the specific lessons which the scheme has been framed to exemplify. He should make these lessons stand out crystal clear and should not allow himself to be drawn into side issues until he has definitely brought out the lessons he has come out to teach. He must avoid ambiguity, and while giving full credit to sound solutions which differ from his own, he must leave no doubt as to his own opinions and of his reasons for them.

Having brought out clearly the lessons for which the schemes were designed (and thus achieved the purpose of the exercise), he can touch briefly on any other important errors of omission or commission disclosed in the exercise.

Finally, he should summarise very clearly the lessons of the operation, so that all present will go home feeling they have learnt something definite, and with food for thought in the future.

36. The conference on the ground however is of little value unless the lessons resulting therefrom are carefully considered and digested by those present, and then passed on to their subordinates.

Hence, commanders of sub-units must hold further conferences on their return to camp or barracks, at which Platoon and Section Leaders and men are informed of the result of the exercise and instructed in the lessons of the day.

This maintains the interest of all (who are only too anxious to learn), and ensures that the lessons of the exercise do not evaporate in thin air as they are apt to do unless crystallised.

37. Before passing to the consideration of tactical exercises without troops, the following suggestions may not be out of place.

The preparation of a tactical exercise is admittedly a laborious affair. Yet we are rather apt to use a carefully worked out scheme only once and then to disregard it.

It is suggested that an admirable exercise without troops often develops naturally from the situation obtained at the conclusion of an exercise with troops, *e. g.*, Night Outposts put out after dark on conclusion of an Advanced Guard action,—or a relief or a withdrawal.

An indoor exercise on these lines, based on a scheme already carried out with troops, not only saves time and effort in the preparation of a new scheme, but also has great instructional value in familiarising officers with the development of a war situation, and in accustoming them to memorise the character of the ground they have worked over with troops.

In this connection a word may be said as to the value of a continuous Brigade scheme on which Battalion and Company Schemes are based.

This method avoids a multiplication of schemes and has the instructional advantages indicated above. (Training and Manœuvre Regulations, Section 16 (9)).

PART IV. (EXERCISE WITHOUT TROOPS (SINGLE)).**38. General Considerations.**

The preparation and conduct of tactical exercises without troops is governed by the same general considerations as already indicated for exercises with troops, and are dealt with fully in Training and Manœuvre Regulations, Sections 15-17.

The following are some failings sometimes noticeable :—

39. Scheme.

- (a) Owing to the absence of troops a greater strain is placed on the imagination than where troops are represented.
Hence it is especially important to stir the imagination by making the scheme as realistic as possible, *vide* para. 6 (a).
- (b) It is essential that it should be made absolutely clear what is the exact composition of the imaginary force taking part and the detailed disposition and location of each Unit at the hour the first situation commences. (Para. 11 (c) and para. 16).
- (c) It is further essential that the location of imaginary covering troops (as far as would be known in war), should be defined. Para. 11 (b) (2).
- (d) It is not an uncommon error in Tactical Exercises without Troops for the initial situation to be vague as to :—
 - (i) The exact composition, War Establishment, location, disposition and situation of the imaginary force to be handled at the hour the operation commences.
 - (ii) Information which would be known in war as to the location and situation of covering troops.
Hence the problem is incomplete which results in solutions being unreal.
- (e) For outdoor exercises for small mixed forces it is advisable for the first problem to be issued for solution indoors prior to the day fixed for the exercise. By this means a thorough knowledge of the scheme is ensured before work on the ground commences.
This first problem should in this case be capable of solution on the map without reference to the ground. (Training and Manœuvre Regulations, Section 17. (6)).

- (f) With the exception mentioned in (e) above, care must be taken in outdoor exercises that no problem is set which could be solved on the map equally as well as on the ground. (*Vide* para. 40 (a)).

40. *Conduct of Exercise.*—

- (a) The value of instruction on the ground depends mainly on the extent to which the ground is actually used.
The tendency is to sit under a tree and to give solutions off the map, instead of with actual reference to the ground. This minimises the instructional value of the exercise. If the exercise is to be worked out on a map, instead of with actual reference to the ground, it is a waste of time going out and the scheme might just as well be carried out in doors. (*Vide* para. 39 (e)). (Training and Manœuvre Regulations, Section 17 (5)).

- (b) The method of organising syndicates is given in Training and Manœuvre Regulations, Section 17 (4).

It is suggested that where the exercise deals with mixed forces there is sometimes a tendency to employ officers of Arms other than Infantry solely as “ Experts ” in their own Arm. This is unsound. These officers require as much practice as Infantry officers in the handling of all arms and must be given full scope to do so and not be treated as somewhat mysterious experts in a craft known to themselves alone.

41. *Conferences.*—(*Vide* Training and Manœuvre Regulations, Section 17 (7)).

- (a) As one of the main instructional assets of a Tactical exercise is to develop a power of clear and definite decision ; it is essential that officers should give a final and definite solution to each problem and not be allowed to talk round it. To ensure this, each solution should be committed to paper in the form of Notes. (Training and Manœuvre Regulations, Section 17 (6)).

- (b) Likewise the Director must be careful to give this own definite solution to the problem and his reasons.

There is a tendency to hold interesting discussions on the various possible solutions to a problem, but to come to no definite conclusion.

In war there is at least one good reason against the adoption of any given course of action.

Hence the power of coming to a decision, deciding on a definite course of action, and in believing in and adhering to a decision once made, is the most valuable characteristic in a Commander. F. S. R., Vol. 11, Section 10.

This characteristic can only be developed by practising officers during peace training in making final and definite decisions. It is for the Director to set the example and to ensure that this power of decision is exploited to the utmost. Conferences on concrete problems must lead to perfectly definite and specific solutions, and not degenerate into academic discussions on generalities, which lead to little result in peace and to no result in war.

- (c) When a problem admits of solution in the form of verbal orders the following procedure should be followed :—
- (i) The members of the syndicate should be told off as definite subordinate commanders.
 - (ii) The head of the syndicate should then give out his verbal orders audibly, clearly, and in the proper form. (F. S. R., Vol. II., Chapter XIV and Section 69 (ii)).
 - (iii) The syndicate should then be asked by the Director if they are quite clear as to the orders.
 - (iv) The Director should then bring out any weak points in the orders by asking each Subordinate Commander how he interprets some vague or imperfect order.

This is a most valuable form of instruction.

- (d) A danger of exercises without troops is that the moral and physical condition of the troops, as well as administrative questions are disregarded.

Dispositions are sometimes made which would be impossible with troops owing to question of time and space, fatigue, supply, etc.

The Director must be careful to give these factors due weight in deciding on the best solution to the problem. (Training and Manœuvre Regulations, Sections 15 (2) (vi)).

- (e) Finally do not forget the enemy, who in war is apt to interfere with the solution of problems more than in peace.

There is a tendency to mark down the disposition of the enemy given in the scheme, and then act as if he were immobile, pinned to the ground and incapable of movement. Give him full credit for acting reasonably on sound military lines.

PART V.—(General.)

42. In the above notes a battalion exercise has often been referred to for purpose of example.

The same principles obtain whether the exercise is framed for a mixed force of all arms, for a company, a platoon, or even a section.

43. A perusal of these notes will make it clear that the preparation of a tactical exercise, even for a platoon, entails careful preliminary work, much thought, and a considerable amount of time.

Commanders responsible for training must therefore give their subordinates ample notice as to periods allotted for different phases of training, dates during which Units or Sub-Units are struck off duty, and training areas at their disposal, etc.

Short notice is a frequent cause of imperfectly prepared exercises and unsatisfactory instructional results therefrom.

THE BATTLE OF DUJAILAH.

(A LECTURE DELIVERED AT THE STAFF COLLEGE, QUETTA, BY
CAPTAIN J. E. SHEARER, M.C.).

Introduction.

1. As you all know, the BATTLE of DUJAILAH was one of the attempts to relieve KUT-EL-AMARAH.

You have already been told about the peculiar topographical and climatic conditions with which the "KUT RELIEF FORCE" had to deal; but I will give you a brief description of those conditions as they were on the 8th March, 1916, as, without a thorough understanding of these factors, it would be impossible properly to understand the battle.

Topography.

2. The ground was dry on the 8th March, so the movement of all arms was possible in almost any direction.

The usual dead flatness of the ground was broken, in the DUJAILAH area, by the DUJAILAH DEPRESSION, and by certain hillocks, which are all marked on Map "B." The DUJAILAH and SINN ABTAR REDOUBTS were placed on mounds some 20 ft. higher than the surrounding country; the series of mounds which formed the ruins of the banks of the ancient JUMAILAT CANAL were some 10 to 15 ft. high; while the other isolated mounds, although surprisingly conspicuous to look at, were not more than about 5 ft. high.

The DUJAILAH DEPRESSION, which is said to be an ancient bed of the TIGRIS, was dry, and was some 10 ft. deep. It had shelving banks and was anything from 100 to 300 yards wide. It gave no cover from shell-fire, and was in places almost blocked by thick, thorny scrub, but on the whole provided a good covered way for wheeled transport, which could enter or leave it at almost any point.

The country to the South and South-West of the DUJAILAH DEPRESSION was absolutely flat and covered by corn stubble some 2 inches high, but both banks of the DUJAILAH DEPRESSION were thickly covered by thorn scrub some 18 inches high.

Visibility.

3. Visibility was very bad indeed throughout almost the whole time that the battle was being fought. Throughout the greater part of the day mirage hid or distorted everything which was more than about 600 yards distant ; but even in the early morning and late evening, when there was no mirage, the dead flatness of the country made the accurate judging of distances very difficult.

The low scrub on the banks of the DUJAILAH DEPRESSION did not conceal our movements in the very least, but enabled the Turks to conceal their trenches so well that they were often quite invisible, even at ranges of 15 or 20 yards.

The greatest difficulty of all, however, was caused by the dust raised by the strike of the Turk's bullets. This dust was so dense that our attacking infantry could seldom see more than about 25 yards in any direction whenever they were under accurate rifle or machine-guns fire of any intensity.

Under such conditions, it is easily understandable why the commanders of forward companies and battalions found it to be quite impossible accurately to report the situations of their men during the battle.

Fighting Strengths.

4. The fighting strengths of the Infantry and Cavalry Brigades which were engaged in the attack upon the DUJAILAH position are shown in Appendix No. 2. It will be seen that they were all very much below War Establishment ; but it must also be remembered that these strengths had still further to be reduced during the battle in order to protect our flanks and rear, which were all the time threatened by swarms of mounted Arabs.

General Aylmer's Plan.

5. The problem which faced General Aylmer, the Commander of the " KUT RELIEF FORCE," was to relieve KUT before the 31st March, as General Townshend had reported that he could not hold out after that date.*

Thorough reconnaissance had proved that it was impossible to turn the Turkish position at HANNA by means of an attack through the SUWAIKIEH MARSH, while a crossing of the TIGRIS about

* (Bird's Chapter of Misfortunes, p. 124.)

ABU ROMAN would probably not lead to a quick enough decision, as the Turks could continue to hold the Western portion of the defile between the SUWAIKIEH MARSH and the TIGRIS.

Consequently, General Aylmer decided to outflank the main Turkish ESS SINN position on the right bank of the TIGRIS by means of a night march. He then intended to roll that position up by means of an attack at dawn upon the DUJAILAH REDOUBT. When that redoubt had been taken, the attack was to push through the SINN ABTAR redoubt to MAQASIS and SINN BANKS.

General Townshend was asked to co-operate in this attack. The actual form of co-operation had been left to him to decide, but it had been suggested to him that he might make a sortie from KUT, either to the North or across the TIGRIS. General Townshend made all preparations for a sortie across the TIGRIS to the South, but actually did nothing on the 8th March, as he waited for some definite sign of the success of General Aylmer's attack before committing his own troops.

I have no time to deal any further with this interesting question, but it is fully discussed on pages 237 to 241 of the "Critical Study of the Campaign in Mesopotamia." I think those pages prove that whole-hearted co-operation by General Townshend on the 8th March would probably have enabled us to relieve KUT on that date.

Criticism of above plan.

6. General Aylmer's plan was an attractive one, and very nearly succeeded in achieving its object ; but it was, in many ways, very risky.

Perhaps its greatest risk lay in the fact that adequate supplies of drinking water were not available in the area which was to be attacked. The nearest sources of water-supply were the rivers TIGRIS and HAI. Consequently, the attacking force would be in a dangerous position if it failed to capture the whole position in one day. The previous experience of the KUT RELIEF FORCE had shown how difficult it was to finish a battle in one day.

There was also grave risk of the night march not being completed during the hours of darkness, and consequently of the Turks getting sufficient warning to be able to prepare to meet the attack upon the DUJAILAH REDOUBT, thus making it unlikely that our troops

would get through to adequate supplies of water within a reasonable time. The distance from the rendezvous to the furthest point of deployment was 11 miles, while some Field Batteries had to march as much as 7 more miles to the rendezvous. Only $12\frac{1}{4}$ hours of darkness were available to cover these distances. As events proved, this time was insufficient to allow for unforeseen delays.

Every precaution was taken to maintain secrecy ; but had the Turkish trenches at Point "C" on Map "B" been occupied by the enemy on the night of the night-march, there would have been grave risk of some of the garrison escaping and warning the Turks in the main position of our approach.

Perhaps General Aylmer might have been able to make a less risky plan if he had waited for the arrival of all available men from BASRAH, where reinforcements for his Corps, totalling 12,000 men and 26 guns*, were waiting for transport to take them up country. But the river transport situation was so bad that General Aylmer could scarcely maintain the force he already had, much less transport and feed considerable reinforcements.

Moreover, the TIGRIS was rising steadily. There appeared to be every possibility that the Turks would soon be able to cover their exposed right flank by means of inundations. This would have destroyed General Aylmer's last hope of obtaining a sufficiently rapid decision. Consequently, he was forced to make the best plan he could to meet the existing situation, and could not afford to wait until the situation improved.

General Aylmer's Orders.

7. General Aylmer's orders for the night-march and attack on the DUJAILAH REDOUBT are given in full in Appendix No. 24 of the official History of the Mesopotamia Campaign, Vol. II.

These orders were briefly as follows :—

(a) *The 7th Division (less 28th Infantry Brigade)* to contain the Turks at HANNA and to protect the camps and bridge at ORAH.

(b) *The 35th Infantry Brigade* to take up a position to cover the concentration for the night-march.

At 06-00 hours this Brigade to concentrate on its left and act as escort to the Ammunition Column and 2nd Line Transport, which were to leave their rendezvous at 05-30 hours, 8th March.

* (Critical Study, p. 74).

(c) *The Attacking Force* was to rendezvous at the RUINED HUT (Point A on Map "B") at 20-30 hours, 7th March, and was to move as one body as far as Point B on Map "B". At that point the force was to break up into its component Columns. By 06-15 hours, 8th March, Columns A and B and the Cavalry Brigade were to reach point "E" on map "B," and Column C was to be deployed as shown in red on map "B."

(d) *The Attacking Force was Sub-Divided as follows :—*

(i) *Column A.*—36th Infantry Brigade.

1 F. A. Battery.

(ii) *Column B.*—9th Infantry Brigade.

28th Infantry Brigade.

9th F. A. Brigade.

Both the above to be under the command of Major-General Kemball, the G. O. C., 28th Infantry Brigade.

(iii) *Column C.*—3rd Indian Division (less 9th Infantry and 9th F. A. Brigades).

37th Infantry Brigade (less 1½ Battalions).

(iv) *6th Indian Cavalry Brigade.*

(e) *The Tasks of the above Columns for the First Phase of the Attack were as follows :—*

Column B. was to capture the DUJAILAH REDOUBT by an attack starting from Point E on Map "B" the deployment to commence as soon as Point E had been reached.

Column A. was to protect the left flank of Column B.

6th Cavalry Brigade was to protect the left and rear of Columns A and B and was to reconnoitre a crossing over the HAI at MAHARI-JAH.

Column C. was to drop the 37th Infantry Brigade and all the Division Artillery at Points J and H respectively. From 06-15 hours, 8th March, the 37th Infantry Brigade and all the artillery at Point H was to come under Corps control, and would provide covering fire for Column B's attack upon the DUJAILAH REDOUBT.

The 7th and 8th Infantry Brigades would remain under the command of the G. O. C., 3rd Indian Division, who would push forward one Brigade to a position of readiness for an attack upon the SINN ABTAR REDOUBT in the second phase of the battle. (These Brigades actually moved to Points K and L, as shown on Map "B").

(f) *After the DUJAILAH REDOUBT had been taken :—*

Column B was to continue its advance towards SINN ABTAR REDOUBT, while Column A was to continue to advance upon the left of Column B.

(The orders stopped at this point ; but certain officers had been told confidentially that the second phase of the battle was to consist of a converging attack upon SINN ABTAR, while Column A cut off the enemy's retreat by capturing the Ferry at MAQASIS).

Criticism of above orders.

8. I think that the following criticisms of the above orders may be made. These are :—

Firstly, that the plan was not as simple as possible.—The result of the complexity of the plan was that dawn found the British force spread out, in comparatively weak bodies, over a frontage of 6 miles, while the Corps Commander had no reserve immediately available in his own hand, with which to influence the battle when General Kemball's first attack failed.

Secondly, subordinate commanders were told what they could, and should have arranged for themselves—The initiative of the various column commanders was cramped by the very detailed orders which they were given. The reason for these very detailed orders was, doubtless, to obtain better co-operation than had been obtained at the battles of SHEIKH SA'AD and WADI ; but if the plan had been simpler, such detailed central co-ordination would not have been necessary.

Thirdly, normal organisation was not maintained. The three Infantry Brigades of Columns A and B belonged to Corps Troops, and to the 3rd and 7th Divisions respectively. They had never worked together before, while General Kemball was given a Staff which only joined him 24 hours before the night-march commenced.

The Night-march.

9. The movement to the rendezvous for the night-march commenced at 18-00 hours, 7th March, i. e., at sunset. The positions of all troops just before this movement commenced are shown on Map "B"*

* (Official Hist., Vol. II, p. 325).

The staff work at the rendezvous was very good, and everything went smoothly there. The march did not commence until 22-22 hours, however, as some artillery which had had to march 7 miles to the rendezvous was very late.

The formation which was adopted during the night-march is shown in Appendix No. 2. That diagram is not quite complete, however, as it does not show the large blocks of transport, and the Field Ambulances which followed each Brigade.

Stout ropes were used to prevent the transport from straying outside the flanks of the main column; but even this precaution was insufficient to prevent a delay of an hour, about midnight, through the transport immediately in front of Column "C" losing touch.

On the afternoon of the 7th March, General Kemball had objected to the inclusion of the Field Ambulances and of so much transport in the fighting columns, and had been given permission to form them into a separate column; but he was unable to effect the change before some of his units had commenced to move to the rendezvous. Consequently, he dropped the matter until Point "B" was reached; but a further $1\frac{1}{2}$ precious hours were wasted at that point in an ineffectual attempt to form the transport of Columns "A" and "B" into a separate column by itself: the transport drivers fell asleep as soon as the column halted, and nothing could stir them into understanding the new orders.

The trenches at Point "C" were unoccupied; but a further half-hour was wasted there before a way could be found across them for the transport.

Thus the transport was directly responsible for delaying the march to the total extent of 3 hours.

It will be noticed that the main column was, as far as possible, protected on all sides by infantry. The forward protection, which is not shown on the diagram, consisted of the scouts of the 26th Punjabis, my own battalion, extended well ahead in pairs. This forward protection has been criticised as being too weak* but we, in the 26th Punjabis, certainly regarded the whole battalion as the Advanced Guard, and only regarded the screen of scouts as our Van Guard. We had been warned about the Turkish trenches at Point "C" and deployed into two lines before reaching them. We were in a compact and

* (Critical Study of the Campaign in Mesopotamia up to April 1917, p. 181).

handy formation, and were fully prepared, throughout the night-march, to engage any enemy our scouts might find.

On the whole, the night-march was amazingly successful, for, in spite of the great size of the force, of the great distance marched; of the unexpected delays which totalled $4\frac{1}{2}$ hours, and of the fact that no proper reconnaissance had been possible, dawn found each Brigade in approximately its right place.

Principal Lessons of Night-march.

10. This night-march is a good example of the great difficulties which can be overcome by good staff work, by efficient guiding, and by good march discipline. In consideration of the fact that no proper preliminary reconnaissance had been possible, the accurate leading of such a large column for eleven miles, by night, over practically featureless country, is a marvellous feat. It also speaks very well for the training and march discipline of the troops concerned, that the unwieldy column, which was some 2 miles long by about 160 yards wide never once became at all disorganized during the night-march.

However, perhaps the principal lessons which this night-march teaches are:—

Firstly, that it is unsound to count upon being able to make any unexpected, radical changes in one's dispositions once a night-march has started :

And secondly, that during a night-march, it is unsound to hamper one's fighting troops with any avoidable transport.

Action at Dawn on the 8th March.

11. We will now turn to the action of Columns "A" and "B" at dawn on the 8th March.

At 06-15 hours, the head of Column "A" received orders to halt, as it was thought that we had reached our Position of Deployment, (Point "E" on Map "B"). We were really at Point "D", 1,500 yards short of our destination, but as the mistake was discovered as soon as it got light enough to see clearly, and as the DUJAILAH MOUND was by then clearly visible from Point "D," no great harm had been done by the mistake.

By 06-30 hours it became obvious that the Turks were absolutely surprised, as large columns of led horses and several flocks of goats could be seen moving slowly towards us from the direction of the

DUJAILAH REDOUBT. Also, the area between us and the DUJAILAH REDOUBT was thickly dotted with Arab encampments, in which men, women and children were wandering about, obviously unconscious of our presence.

On seeing this, the 26th Punjabis immediately commenced to advance again, but were very soon recalled and halted in the DUJAILAH DEPRESSION, under cover of a large embankment at Point "D." Columns "A" and "B" were then closed up in rear of the 26th Punjabis, all battalions being in close column, but the normal distances being practically eliminated. This excessive closing up of the column in the DUJAILAH DEPRESSION was unfortunate, as it made the subsequent deployment very slow and difficult, moreover, it took a full half-hour to complete.

At 07-00 hours, just as Columns "A" and "B" had completed getting themselves under cover, General Aylmer opened fire on the DUJAILAH MOUND with the Corps Artillery from between Points "H." and "L." From a message sent him at 06-35 hours, General Aylmer was under the impression that Column "B" would commence its attack by 07-35 hours at the latest; while even before 07-00 hours, it had become impossible any longer to conceal the movements of the 7th and 37th Infantry Brigades.

As soon as the Corps Artillery opened fire, we saw the Turkish camps to the West of the DUJAILAH REDOUBT spring into life. There was great confusion in them at first, but we soon saw small formed bodies doubling out in various directions, obviously to occupy defensive positions. From that time onwards until 13-00 hours we continued to see a continuous stream of reinforcements arriving from the direction of MAQASIS.

On seeing these Turkish movements, the G. O. C. 36th Infantry Brigade, and several battalion commanders, asked to be allowed to commence the attack immediately. About that time also, Major Leachman, a Political Officer who had disguised himself as an Arab and had just completed a personal reconnaissance of the Turkish position, reported that the Turkish trenches were empty, except for weak pickets. There was, however, a very long delay before the 28th Infantry Brigade could be brought up, under cover, from the rear of Column "B." The result of all these delays was that the leading Brigade, the 36th did not deploy until 09-00 hours, and the attack did

not commence until 09-30 hours, that is to say, 3 hours after our arrival at Point "D," and 2½ hours after our gun-fire had warned the Turks of our presence.

It is easy to be wise after the event, when all the facts are known, and when one's decision does not involve the assumption of grave responsibility; but as events have proved, it was unfortunate that the three leading Infantry Brigades did not deploy straight into their attack formations at 06-30 hours; there would undoubtedly have been a period of confusion (and consequently of danger), before the fighting troops could have shaken themselves clear of the transport and Field Ambulances with which they were hampered; but this confusion should not have lasted many minutes, as both the essential landmarks, the DUJAILAH MOUND and the TOMB of IMAM-AL-MANSUR, were clearly visible. Moreover all the troops could see that the Turks were absolutely surprised, and were only too keen to attack them before they had recovered. The troops could see exactly where to go, and had every incentive to get there quickly.

Turkish accounts have since confirmed Major Leachman's report regarding the emptiness of the Turkish trenches at dawn, so General Aylmer's plan would have had every chance of entire success if the attack had commenced at 06-30 hours, or even at 07-00 hours.

General Kembell's Attack Orders.

12. General Kembell's attack orders were as follows:—

- (a) The 9th Infantry Brigade was to attack the DUJAILAH REDOUBT, starting from Point "E" (Map "B"), and keeping it's right upon the DUJAILAH DEPRESSION.
- (b) The 28th Infantry Brigade was to move in support on the left rear of the 9th Infantry Brigade.
- (c) The 36th Infantry Brigade was to move in the direction of IMAM-AL-MANSUR and to take the Turkish trenches at Point "G." After those trenches had been taken, that Brigade was to await further orders before moving on.
- (d) One Field Battery was placed under the orders of the 36th Infantry Brigade; but all other batteries were to cover the attack of the 9th and 28th Infantry Brigades by firing a concentration upon the DUJAILAH REDOUBT.

An Artillery observing officer was attached to each Infantry Brigade ; but, unfortunately, all these officers became casualties early in the attack, with the result, as we shall see, that the guns never fired at all at the trenches which held up the attack.

(e) General Kemball, with the bulk of his artillery, remained at Point D.

(f) General Kemball asked the 6th Cavalry Brigade, which had reached Point F at about 07-00 hours, to ascertain whether the trenches on the extreme right of the Turkish position, S. W. of IMAM-AL-MANSUR, were occupied ; but this message never reached the 6th Cavalry Brigade, so they made no move.

The First Attack by the 36th Infantry Brigade.

13. The attack was opened by the 36th Infantry Brigade, which commenced its advance towards IMAM-AL-MANSUR at 09-35 hours, and had taken its objective by 11-30 hours. This Brigade met with considerable opposition from Arab irregulars, supported by dismounted cavalry, while its right flank had been enfiladed throughout the whole advance by rifle and machine-gun fire from the direction of the DUJAILAH REDOUBT. This enfilade fire continued after we had halted at Point G. while Turkish Cavalry and mounted Arabs kept on trying to get round our exposed left and rear ; but although we remained in this exposed position until 13-00 hours, our casualties were surprisingly light.

Throughout this time the 6th Cavalry Brigade had remained halted about Point F. and had had no appreciable effect upon the course of the battle.

Attack by 9th and 28th Infantry Brigades.

14. We will now turn to the main attack upon the DUJAILAH REDOUBT by Column B.

The remainder of the lecture is illustrated by Map "C" which is a copy of a sketch I made three months after the battle, as soon as we reoccupied that area, and while the positions which each unit had occupied were still unmistakably marked by their dead, and machine-gun positions by piles of empty cartridge cases.

The 9th Infantry Brigade moved off from it's starting line at 09-45 hours, while the 28th Infantry Brigade, which was echeloned on it's left rear, moved off at 10-00 hours.

Soon after 10-00 hours the Turks, who were by this time in great strength in ditches "A", "B", "C," and "D" on Map "C", as well as in trenches on the line "E—H—F" opened a very heavy fire upon the 9th Infantry Brigade and eventually held it up definitely at 10-45 hours upon the line "G—D." By 11-45 hours the 28th Infantry Brigade, which had fought it's way up on the left of the 9th Infantry Brigade, was also held up on the same line "G—D". Both Brigades had suffered very heavy casualties, principally from enfilade machine gun fire from both flanks.

On being held up both Brigades sent back extremely inaccurate reports as to their position. The 9th Infantry Brigade reported that it's firing line was only 500 yards from the DUJAILAH REDOUBT, while a message was passed to the 36th Infantry Brigade stating that the 28th Infantry Brigade had captured the first four lines of trenches of the DUJAILAH REDOUBT itself. (We can see from Map No. "C" that the 9th Infantry Brigade was really about 2,000 yards from the REDOUBT, while the trenches referred to by the 28th. Infantry Brigade were probably ditches "A," "B," "C" and "D." Both Brigades had probably mistaken the ridge "E—H" for the Redoubt. The bluff at "E" really looks quite conspicuous in the dead flatness of the surrounding country, and looked even more so in the thick haze of dust which was raised by the strike of the enemy's bullets.

These inaccurate situation reports had a most unfortunate result, namely that, throughout the whole day, the fire of General Kemball's artillery, as well as that of the Corps Artillery, was concentrated upon the DUJAILAH REDOUBT, while the trenches at "E H" which were the ones which were holding up the attack, were never fired at at all. The 28th Infantry Brigade reported this fact at noon, and my own battalion reported it again about 14-00 hours; but it was not until we reoccupied the same area three months later that any one really had any idea how far the line "E. H." was from the DUJAILAH REDOUBT.

Second Attack by 36th Infantry Brigade.

15. When it became evident that the 9th and 28th Infantry Brigades were definitely checked, the 36th Infantry Brigade, which was

still halted upon it's original objective near IMAM-AL-MANSUR, was asked to co-operate by advancing on the left of the 28th Infantry Brigade. By 13-00 hours when this new movement commenced, 1½ Battalions of the 36th Infantry Brigade had become involved in a Turkish counter-attack and could not be extricated; but the rest of the Brigade retired about one mile, and then changed direction and attacked straight for the DUJAILAH REDOUBT. Unfortunately, we had retired too far before changing direction, so our attack passed through the 28th Infantry Brigade instead of helping to pinch out the strong point at "E". Our arrival on the line "G—D" only added still further to the hopeless confusion of units which were already in that ditch. We had lost very heavily indeed in passing through a machine-gun barrage which the Turks put down between ditches "C" and "D"; but our attack had sufficient impetus left in it to carry parts of the line on about 100 yards beyond ditch "G—D." However, by 15-00 hours the whole line was held up again in spite of extremely gallant efforts by all three Brigades. All units were by this time so mixed up that any further organized attacks were impossible.

Action of the 37th Infantry Brigade.

16. Now to turn to the 37th Infantry Brigade. This Brigade had arrived at about Point "J" on Map "C" at 06-30 hours and began to dig in there as ordered. They subsequently reported that the Turks began to reinforce the garrison of the DUJAILAH REDOUBT about 09-00 hours and that a stream of reinforcements continue to arrive for the rest of the day.

Soon after the Corps Artillery opened fire at 07-00 hours, considerable bodies of Turks and Arabs took up a position in the bushes about Point "F" and gave the 37th Infantry Brigade considerable trouble for the rest of the day.

About noon, however, this Brigade began to realise that all was not well with General Kember's attack, as the 9th Infantry Brigade had not yet come in sight so they very gallantly tried to make a diversion by themselves advancing. They succeeded in reaching the positions shown on Map "C", and maintained themselves there until they were able to join in the 8th Infantry Brigade attack at 17-00 hours.

The Last Attack.

17. Soon after 15-00 hours General Aylmer realized that the 9th, 28th, 36th and 37th Infantry Brigades were all definitely held

up. He still, however, had the 7th, 8th and 35th Infantry Brigades in hand at that hour, so he decided to put the 8th Infantry Brigade into the fight ; but he continued to keep the 7th and 35th Infantry Brigades in reserve, as he was expecting his right flank to be heavily counter-attacked before dark.

General Aylmer's plan was for the 8th and 37th Infantry Brigades to storm the DUJAILAH REDOUBT from the East, while General Kemball's troops made a simultaneous attack from the South. Unfortunately, he had not even yet realized how far General Kemball's troops still were from the DUJAILAH REDOUBT.

Both attacks were carried out with the utmost gallantry at 17-00 hours, just as the sun was beginning to set. The 8th and 37th Infantry Brigades took the DUJAILAH REDOUBT, in spite of losing very heavily indeed during their advance. Unfortunately, however, they were so badly provided with grenades that they were unable to withstand the Turkish counter-attacks, and were driven back again across the DUJAILAH DEPRESSION before dark.

General Kemball's troops had meanwhile made further gallant efforts to advance, but had not progressed beyond the red dotted line on Map "C." Again, the whole of the artillery support had been poured upon the DUJAILAH REDOUBT, and none at all upon the trenches at E—H. It is unfortunate that General Aylmer could not find out by means of aeroplane reconnaissance how inaccurate the situation reports sent in by the leading troops were ; but his total air force at that time consisted of 6 aeroplanes and 3 seaplanes, all more or less unserviceable.

The Retirement.

18. As soon as darkness made it possible, the various Brigades were reorganized under cover of battle outposts, and stood by in expectation of further attack orders ; but lack of water, combined with the fear that he would be unable to extricate his troops if a further attack was unsuccessful, made General Aylmer decide to give up the idea of attempting any further attacks. About midnight he issued orders for the withdrawal to ORAH. The withdrawal was very trying on account of thirst, but was not of much tactical interest, as the Turks only made a very half-hearted attempt to follow us up.

Tactical Lessons of the Battle.

19. This battle contains many tactical lessons, but perhaps the principal of these are :—

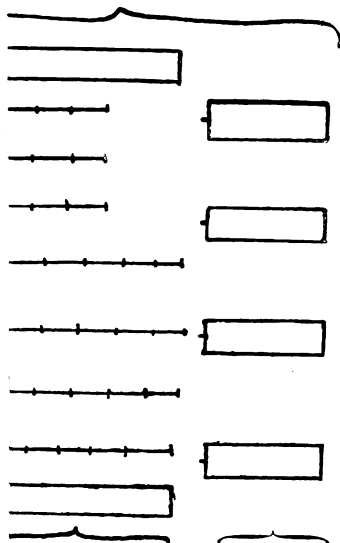
- (i) That plans should be simple.
- (ii) That surprise is useless unless boldly exploited before the enemy has had time to recover from his surprise.
- (iii) That cavalry do not “pull their weight” unless full use is made of their mobility.
- (iv) That, in an attack over flat, featureless country, guns cannot give the attacking infantry adequate support unless they have “eyes” really well forward, either in the form of Artillery observing officers or aircraft.
- (v) That the building up of a dense infantry firing-line is quite useless in an attack under modern conditions. It is true that such a firing-line was not intentionally built up by the 9th, 28th and 36th Infantry Brigades ; but no one who was present in that firing-line will ever forget the hopeless confusion and useless waste of lives and effort which resulted.
- (vi) That, in a modern battle, it is very difficult, without aeroplane co-operation, to obtain accurate information of the positions of the forward infantry.
- (vii) And lastly, that in flat countries like IRAQ, where there is no cover, and where the maintenance of direction is very difficult, the best method of carrying out an attack is by means of a continuous advance without halting. The 8th Infantry Brigade did this successfully, but Columns A and B advanced by rushes when the enemy's fire became very intense, and were not only unsuccessful in their attack, but also lost direction badly.

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APPENDIX No. 1.

Plank. Between these bns., 7 Blys.
(less 3 Secs.), each in column of
route.



2 Bns. in line of half-bn. columns in
fours.

Note.—(1) Intervals and distances will be such as to maintain touch laterally, and from front to rear, without expending men in connecting files.
(2) 1st Line Transport and Field Ambulances have not been shown above. These will be either fitted in between columns or march in rear of brigades on as broad a front as possible.

APPENDIX No. 2.

Effective Strengths and Casualties of the Cavalry Brigade and Infantry Brigades engaged at the Battle of DUJAILA, 8th March, 1916.

Column.	Formation.	Effective Strengths.					Casualties.				
		B.O.'s.	I.O.'s.	B.O.R.'s.	I.O.R.'s.	Total.	Killed.	Wounded.	Missing.	Total.	Percentage of total strength.
"A"	36th Inf. Bde. ..	69	34	807	1,444	2,354	61	445	78	584	24%
"B"	9th Inf. Bde. ..	58	50	829	2,200	3,137	136	559	32	727	23%
	28th Inf. Bde. ..	82	36	1,083	1,773	2,974	100	447	44	591	20%
"C"	7th Inf. Bde. ..	70	43	1,363	1,671	3,147	3	68	..	71	2%
	8th Inf. Bde. ..	65	56	1,086	1,955	3,162	165	660	249	1,074	33%
Corps Troops	37th Inf. Bde. ..	38	19	576	751	1,384	34	169	82	285	26%
	(less 2 Bns.)										
	35th Inf. Bde. ..	59	20	971	885	1,935	2	24	3	29	1½%
	6th Cav. Bde. ..	54	37	458	897	1,446	7	29	3	39	2½%

NOTES.

- (i) *Total Fighting Strength of Force which was engaged :—*
1,268 sabres, 18,048 rifles, and 68 guns.
- (ii) *Total Casualties :—*
Killed 512, wounded 2,465, missing 497.
Total casualties 3,474 or 15½ % of troops engaged.
- (iii) *Total Casualties of General Kemball's Infantry :—*
(i. e., 9th, 28th and 36th Infantry Brigades)=22½%
- (iv) *Total Casualties of Infantry which entered DUJAILA REDOUBT during last attack :—*
(i. e., 8th Infantry Brigade and 37th Infantry Brigade (less 2 Battalions)
29½%

“MACHINE GUN FIRE TACTICS”

BY

COLONEL ON THE STAFF L. F. RENNY, C.M.G., D.S.O.

The object of this article is to put before the reader certain simple facts about the nature and application of machine gun fire which it is advisable that officers of all arms should bear in mind when considering the tactical handling of Vicker's machine guns.

1. Tactical handling is based on the characteristics of the weapons.

This is a platitude, but one which was sadly neglected or forgotten during the first two years of the Great War.

The chief factors to be borne in mind in considering the bearing of the characteristics of the Vicker's gun on its tactical handling are :—

(i) Its power of producing :—

- (a) Overhead fire with safety to our own troops.
- (b) Effective fire at long ranges.
- (c) Indirect fire.

These powers are conferred by the tripod mounting.

(ii) The power of sustaining fire indefinitely subject only to ammunition supply.

This is due to the strong mechanism, belt feed and water-cooling system of the gun.

(iii) The mobility of machine guns when *man-handled* is much less than that of infantry. This is a factor which is often overlooked. The antidote is, of course, a bold and skilful use of available transport.

2. The close connection between fire direction and tactical handling.

It is impossible to separate fire direction from tactical handling. The two must go hand in hand. Hence the term “fire tactics.” Machine guns act by fire only. Therefore it is incumbent on all officers, without (except in the case of machine gun officers) going deeply into technical details, to understand the nature, possibilities and limitations of M. G. fire as well as the broad principles underlying the application thereof.

An important point to bear in mind is that the nature and configuration of the ground have a vital bearing on M. G. fire tactics.

Any disposition of M. G.'s which is not based on a consideration of the ground from the point of view of production of fire and of fire effect is bound to be an unsound disposition.

3. *Direct and Indirect fire.*

It is impossible to over-emphasize the importance of direct fire. Machine gunners should invariably endeavour to engage a target by this means.

In direct fire the gunner lays the gun by aiming at the target over the sights : this postulates that he can see the target. But it must be remembered that it is not always possible to see the target even in daylight from a direct fire position. Smoke screens, mist or the dust and smoke caused by bursting shells may obscure visibility from the gun position. It is highly important therefore, that machine gunners, even when occupying a direct fire position, especially in defence, should put out their target posts as an auxiliary aiming mark, enabling them to continue their fire on fixed lines in case visibility is obscured. But although great stress is laid on the necessity for direct fire, that is not to say that indirect fire will never be required.

During the trench warfare stages of the late war, indirect methods were much employed by M. G.'s, the chief reasons being—(i) the impossibility of siting guns in a position from which a direct view over the sights could be obtained on to the ground on which the bullets were required to fall, (ii) the imperative need for concealment from hostile ground observation, and (iii) the great depth to which it was necessary to carry M. G. dispositions.

At present our training is directed towards what is called mobile warfare in which the occasions and circumstances necessitating the employment of indirect fire methods by M. G.'s will be comparatively rare.

But it would be highly foolish to rule out indirect fire entirely. Quite apart from such factors, as bad visibility, smoke screens or darkness which, as already pointed out, necessitate indirect methods, circumstances will often arise in the attack in mobile warfare making it desirable to site guns for indirect fire. Take, for example, the initial stages of a deliberate attack in open country, an attack which according to the size of the forces engaged may take anything from six

to twenty-four hours to stage. In such a case there is ample time to carry out reconnaissance and make all necessary arrangements. It is quite conceivable that the machine guns which are to afford the covering fire for the *initial* stages of the attack will best be able to *maintain* that covering fire by adopting indirect methods, on account of the concealment from ground observation which these methods afford. On the other hand, the use of indirect methods by M. G.'s in a battle of encounter (such as an A. G. action) or when supporting infantry which has effected penetration into the hostile defensive zone, would obviously be absurd.

Again—consider the defence. Admittedly all M. G.'s must be sited first and foremost for the defence of tactical features or localities by means of direct fire. But it will often be desirable to utilise the fire of rearward guns to assist the defence of localities further forward in the defensive zone. Such fire will often, by reason of ground, be indirect fire.

To sum up—we cannot afford to limit our M. G. action to direct fire only. We must inculcate in our machine gunners the desire to carry out their tasks by means of direct fire on every occasion possible. But we must see to it that they also possess the necessary knowledge and ability to carry out indirect fire, as well as (and this is the important point) a true sense of proportion as to the circumstances under which indirect methods will be employed with advantage.

5. *Frontal, enfilade and oblique fire.*

It is essential to consider the relative value of frontal, enfilade and oblique fire under varying circumstances.

The beaten zone of the machine gun is very long in comparison to its width. Reference to the Range Tables shows that, on flat ground :—

At 600 yards range the B. Z. is 600 yards long and 3 yards wide.

At 1,000 yards range the B. Z. is 300 yards long and 5 yards wide.

At 1,500 yards range the B. Z. is 160 yards long and 10 yards wide.

At 2,000 yards range the B. Z. is 130 yards long and 16 yards wide.

Admittedly this factor must be borne in mind in considering the application of fire in relation to the tactical situation, the nature of

the target and the number of guns available for the task in hand. Thus, a purely linear target will be engaged in the most *economical* and effective manner by means of enfilade fire, especially at close ranges. But we seldom, if ever, get a linear target in these days. In the attack, the task required of machine guns generally require them to engage an area approximately equal in width and depth.

Thus—(See Fig. 1).

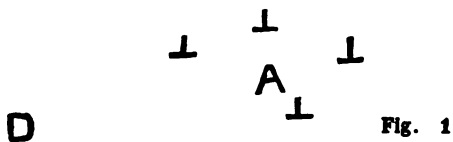
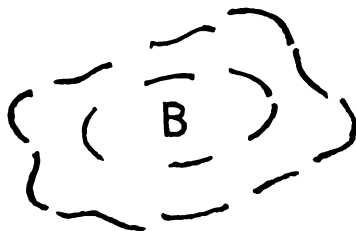


Fig. 1

Infantry advancing to the attack have reached the position A but are held up by rifle and M. G. fire from hill B, 800 yards away. It is impossible to locate the exact position of the hostile M. G.'s and infantry posts which are holding up the advance. Machine guns brought into action at D must traverse and search over hill B to ensure that they will subdue hostile fire from that locality. There is, of course, the case of penetration on the flank of a hostile locality which enables the attacking troops to produce machine gun fire from a flank, the moral effect of which cannot be over-estimated.

Thus—(See Fig. 2).

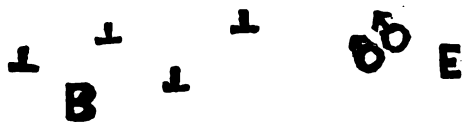
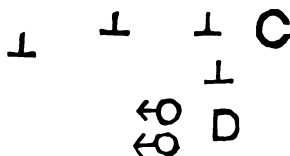
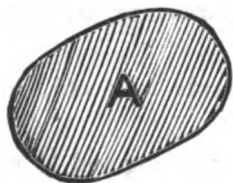


Fig. 2

Supposing the left leading company of a battalion is held up by fire from the hostile locality A, but that the right leading company has penetrated to C. This may allow of machine guns being pushed up to D, where they will be well placed to subdue the resistance of locality A. But although this may be called "enfilade" fire, it does not alter the nature of the fire task. It will still be necessary for the machine gunners at D to traverse and search over locality A in exactly the same manner as they would have to do from the position E.

In the defence, if it is desired to prevent the advance of the enemy on a given limited frontage, frontal fire, provided that a sufficient number of machine guns is available (*i. e.*, to avoid excessive traversing) may be more effective than enfilade or oblique fire, since the enemy must pass through the whole length of the beaten zone. But we never have a sufficient number of M. G.'s to cover the whole defensive front with frontal fire. Hence oblique fire is used in defence mainly for economical reasons, *i. e.*, in order to cover as much ground as possible by making the greatest possible use of the length of the beaten zone. "Owing to the value of enfilade or oblique fire, the machine gun defence of a tactical locality may best be ensured by placing the guns away from and on the flanks of the locality to be covered" (F. S. R. II, 93 (5)).

6. Overhead fire.

In dealing with overhead fire we should direct our thoughts mainly to the consideration of the *offensive* power of machine guns, that is the support which they can afford infantry in the attack. Apart from the provision of a reserve of fire power, F. S. Regulations lays down a three-fold duty for machine guns in the attack:—

- (i) Covering fire to support the advance of the leading infantry.
- (ii) Protection of the flanks.
- (iii) Defence in depth against hostile counter-attacks, *i. e.*, consolidation of ground gained.

Whatever may be said about the protection of flanks and the consolidation of ground gained, there can be no question but that by far the greater proportion of the covering fire which can be developed for the support of the leading infantry must of necessity be overhead fire.

In the late war during the years 1914, 1915 and 1916 we failed to get any real value from our M. G.'s in support of attacks because

we had not then developed overhead fire. In those days the infantry did not trust the machine gunner and had not been trained to go under overhead M. G. fire. Even so late as the Battle of the Somme in 1916, machine gunners were trying to get forward in the mud, man-handling their loads and rarely getting up with the leading infantry in time to be of use. From 1917 onwards practically no attack was delivered except under overhead M. G. fire. It is probable that we should have saved many casualties if we had developed it earlier in the war. We must realise not only the possibilities but also the limitations of the weapon in regard to overhead fire. It is not intended in this article to enter into technical details : but it should be borne in mind that the primary consideration, viz., the safety of our own troops is fully catered for in the rules for overhead fire.

The nature and configuration of the ground are, of course, the predominant factors in the use of overhead fire. In flat or very enclosed country overhead fire will only be possible if the advance is carried out in accordance with a definite time table.

In the late war we had ample experience of the use of overhead fire in conjunction with a time table. What we want to study now is the application of this form of support, by quick and simple methods, in the rapidly moving situations of mobile warfare.

7. Long range fire.

It is as well to remember that in the Vicker's gun we have a weapon which is capable of carrying out effective fire at ranges of 2,000 yards and over.

This is a point which is sometimes missed, with the result that full value is not always obtained from M. G.'s. This does not imply that M. G.'s should be held back because of this facility for producing long range fire. Far from it. But very often, in the attack, the ground will be of such a nature that there will be available no positions from which covering fire can be produced except at long ranges.

In the defence the long range fire of machine guns sited in depth is often of the greatest value.

8. Observation of fire.

Unfortunately unlike the artillery, machine gunners cannot in the least *rely* on obtaining observation of fire. All fire direction methods are therefore based on the assumption that observation

of fire will not be obtainable. But this is not to say that it never will be obtainable. Its great value in allowing of immediate correction of errors makes observation of fire a thing to be sought for constantly. The factors on which observation of fire depends are—

- (i) Nature of ground on which the beaten zones fall.
- (ii) Weather.
- (iii) Distance from the target of the position from which fire can be observed provided all conditions favourable.
- (iv) Range.

In the training of machine gunners considerable stress should be laid on the necessity of training officers and N. C. O.'s in observation of fire and in making corrections as the result of observation. It is not an easy subject but one which requires a great deal of practice.

9. *The Section and the sub-section.*

This question is of considerable importance in relation to machine gun fire tactics.

At the end of the late war the section of four guns was firmly established as both the tactical unit and the fire unit. It had been proved to be the largest number of guns which could be controlled by one person, and at the same time it had been found to be the smallest unit which could be dealt with, from a fire direction point of view, in the organization and control of machine gun barrages, fired by large numbers of machine guns operating under centralised control. This idea of the section being the tactical *and* the fire unit continued for some years after the war. Thus in the 1921 edition of *M. G. Training* we find it stated that : " To obtain the requisite volume of machine gun fire it is necessary to have a number of guns under one control. For this reason the section of four guns is to be regarded as the normal unit for purposes of fire direction and control." And again : " The tactical unit of machine guns is the section of four guns." Gradually, however, the study of mobile warfare conditions led to the disclosure of difficulties in making the section the fire unit. These difficulties are—

- (i) The impossibility of controlling the fire of four guns unless they are placed very close together, at most not more than 10 yards apart.

- (ii) If placed so close together it is generally impossible to take full advantage of available cover in a direct fire position, and there is a risk of all four guns being put out of action by one shell or one or two bursts of fire from hostile M. G.'s. Consequently, in the 1925 edition of M. G. Training it is laid down that : "The section is a tactical as well as a fire unit ; the sub-section is a fire unit only and not a tactical unit." Here we see the first mention of the sub-section as a fire unit. Since the 1925 edition of the manual has been written, however, the matter has been taken a stage further and the teaching now is that for *direct* fire the sub-section is the fire unit, the section never. For *indirect* fire the section is the normal fire unit. It will be understood that when an indirect position is adopted the question of concealment of guns and personnel is not such a great difficulty and full advantage can be taken of having four guns under one control.

It comes to this then, that for direct fire tasks, owing to the necessity of ensuring cover and concealment, the sub-section is the fire unit and four guns will not be sited together.

Consequently, if it is necessary for the section commander to utilise both his sub-sections in a given fire position, we may expect to see the sub-sections disposed, at any rate in the attack, somewhat as follows :—

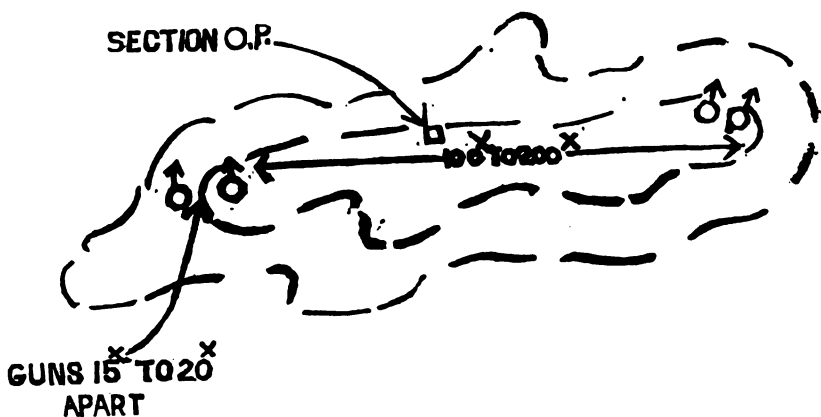


Fig. 3

The sub-sections can be allotted separate and divergent arcs of fire, or if it is a section task both fire unit commanders should be given the same arc. If they are trained in selection of targets they will

often both automatically engage the same target at long ranges thereby making fire effect complete. Though some measure of surprise may be lost by sub-sections opening fire at different times, there is little chance of both sub-sections being neutralized at the same time. Therefore at least some fire effect will be forthcoming. To ensure that important targets *do* get the full fire effect of four guns, the section commander can send fire direction orders, by orderly, to his fire unit commanders

It is necessary to discriminate clearly between fire direction and fire control. Fire direction is the term applied to instruction given by an officer commanding more than one fire unit to his fire unit commanders as to how fire is to be applied.

Fire control means the fire orders given by fire unit commanders to their men. In direct fire, therefore, fire direction is the business of M. G. platoon and section commanders: fire control is in the hands of sub-section commanders. In indirect fire, for which the section will be the normal fire unit, both fire direction and fire control will be in the hands of the section commander.

Now, there are certain points to be noted and certain tendencies to be guarded against in this aggrandisement of the sub-section, if it may be called so.

- (a) The matter must never be allowed to go a stage further, *i. e.*, to disposition by single guns. Single M. G.'s are anathema. The fire of a single M. G. at effective and long ranges is of little value, and, as guns are liable to temporary stoppage, no reliance can be placed by the other arms on M. G.'s disposed singly, functioning when required. Machine guns will, therefore, never be sited with less than two guns to one task. Naturally, if one gun is destroyed by enemy fire, the fire of the remaining gun may be better than nothing.
- (b) It must be borne in mind that, at ranges over 1,200 yards the fire of two guns has little hitting power compared to the expenditure of ammunition, necessitated by searching and traversing. When, however, the great moral effect of machine gun fire is taken into consideration, it is probable that the fire of two guns carefully ranged may have great stopping effect by at least making an enemy deploy, even up to (say) 1,600 yards.

If four guns can be turned on to the same target, good fire effect can be obtained at all machine gun ranges.

- (c) It is understood that, at home, sub-sections are eventually to be equipped with the necessary instruments to enable them to employ indirect fire when necessary, as will be the case when forced by enemy fire to avoid direct fire positions. As, however, indirect fire from behind cover can seldom be employed at ranges below 1,200 yards and extra traversing is required owing to possible errors in direction, the fire effect of two guns will be considerably curtailed. Therefore indirect fire by sub-sections will normally only be adopted when they are isolated.
- (d) *Tactical control must remain in the hands of the section commander.*—M. G. Training 1925 says : “In the case of infantry machine guns, if tactical considerations necessitate movement or disposition by sub-sections, such movement or disposition must permit of general control by the section commander, i. e., sub-sections must be disposed in depth rather than at wide intervals, laterally.”

THE STUDY OF MILITARY HISTORY.

By

CAPTAIN F. A. S. CLARKE, D.S.O.

As a result of reading the article which appeared in the April number of the *Journal of the United Service Institution of India* entitled "The Value of a Study of Campaigns Prior to the Great War," the writer feels emboldened to put forward some suggestions which may be of value to officers who wish to study military history. The writer is of the opinion that "Historical *Illustrations to Field Service Regulations" is of great help in his study, but that by finding one's own illustrations a more lasting effect on the mind is likely to be produced. To read this book in conjunction with the manual should be a preliminary to further work. If we are to fit ourselves as leaders we must learn to apply the principles of war in Field Service Regulations instinctively to any problem; we are better able to do this with a reasoned rather than a parrot-like knowledge of the regulations.

"In the study of military history the object should be to derive from the records of past campaigns lessons applicable to the present. To read with a view merely to acquiring a knowledge of historical events is of little value." †This is quite clear, and definitely sets out what our aim should be; then follows a warning, one that would seem to have been overlooked by certain writers referred to in the first paragraph of the above mentioned article. "The size of modern armies and their improved armament and means of communication render many of the lessons, both tactical and administrative, of the past inapplicable to the present. But the principles of war and the preponderating part which human nature plays in all operations are immutable, and for this reason valuable lessons can be obtained from the most ancient campaigns."‡ This clears the air as to what may be usefully read, it remains for the individual to select his campaign according to the lessons he wishes to learn, unless he is considering a campaign laid down for study during the individual training period or for an examination.

* Reviewed in the *Journal of the United Service Institution of India*, April 1926, p. 152.

† Training and Manœuvre Regulations, Section 9 (2).

‡ Training and Manœuvre Regulations, Section 9 (2).

The principles are enunciated and a doctrine set forth in Field Service Regulations, it is suggested, therefore, that the first steps in a study of military history should be to ascertain how these principles have been applied in the past, and the reasons which have led to our modern doctrine. We may note the application of the principles of war and study human nature in any campaign, but we shall not in addition deduce any lessons in minor tactics from the wars of Hannibal, Cæsar or Turenne. The young officer's first duty is to learn to apply the doctrine contained in Field Service Regulations instinctively to any problem which may confront him in the field. It is suggested, therefore, that he should confine himself in the first instance to the study of the campaigns of the last twenty-five years, and from these find illustrations of the principles and reasons for our doctrine. With this grounding, he is in a position to gain advantage by giving his reading a wider scope. Do not let us forget Mr. Backsight Forethought who could dispose an army corps for battle, but found considerable difficulty in dealing with a half company faced with a simple tactical problem.* Again, in the report on the examination for promotion held in April 1924, it is stated that, so far as tactics were concerned, failures were chiefly due to lack of application of the principles of war, as laid down in the manuals, to the various situations of the scheme.

"To get full value from the reading of past campaigns it is necessary to examine carefully how the principles of war have been applied by commanders and with what results. A thorough knowledge of the principles contained in Field Service Regulations is, therefore, an essential preliminary to the study of military history."† To obtain any lasting benefit one must not only read, but reflect; putting one's thoughts on paper is an aid to reflection, and practice is an important part of an officer's training.‡ The method which the writer suggests is to select a campaign or some period, read it through to obtain a general idea of events, then go through it again seeking examples of the application or failure to consider a certain principle. It is best to deal with one principle at a time, but consideration of one will draw attention to others which can be noted and considered later. Write down on one side of a book a short description of the incidents which have been selected as an illustration, and after studying and noting the sec-

* See "The Defence of Duffer's Drift."

† Training and Manœuvre Regulations, Section 9 (3).

‡ *Ibid*, Section 13 (1).

tions of Field Service Regulations which bear on the subject, enter on the other side the result of thought on the question. Having done this, select some or all of the chosen examples, and with the map, consider, in the light of the information the commander may be presumed to have had, what action should have been taken in accordance with our present Field Service Regulations.

As illustrations the following are given:—

Period. The Campaign of the B. E. F. from the outbreak of hostilities until the 9th September, 1914.

Principle selected. SECURITY. (See maps issued with Official History).

1. *The advance of the B. E. F. from the area of concentration to the MONS position.*—The movement was covered by the Cavalry Division, and the 5th Cavalry Brigade, who on the night of the 21/22 August halted about ten miles ahead of the outposts of the main body. On the 22nd, the Cavalry were in touch with the enemy, north of the MONS-CONDE Canal and about BINCHE. In the meantime, I and II Corps were moving up, each with its own protective detachments. On the evening of the 22nd, I and II Corps took over the front from the Cavalry Division, which was then sent to the open or western flank.

The force was adequately protected against surprise, and retained its liberty of action. That the enemy obtained no information is shown by Von Kluck's orders for the 23rd. Enemy advance located, air reports helped in this. See B. E. F. Operation Order No. 5 and F. S. R. II, 28 (1—5), 44 and 48.

2. *II Corps Outposts at MONS.*—The outposts of this Corps extended from OBOURG to NIMY and thence along the CONDE Canal, in some cases on the north bank, to the POMMEREUL bridge, about twelve miles. Provision made for occupying a position in rear of the canal about the line NOUVELLES-FRAMERIES-WASEMES-DOUR, should a strong attack develop. The outposts of the 3rd Division had orders to make a "stubborn resistance." The 9th Brigade outposts withdrew between 2 p.m. and 3 p.m., whereas those of the 13th Brigade on their left were ordered to retire at midnight, the 8th Brigade on the right of the 9th seems to have retired when it had to. In consequence of the move of the 9th Brigade, the Germans filtered through

MONS and nearly succeeded in cutting off the 8th Brigade whose main body about BOIS LA HAUTE did not retire until after dark.

The outposts more than carried out their protective duty, but orders should have been given to co-ordinate their retirement and for the occupation of the main position. Brigades do not appear to have co-operated to any extent. The outposts could either have been told to be clear of a certain line at a definite time, or to hold their positions until ordered to retire. In this case the former would seem to be the best method, to allow definite time for the preparation of the position in rear of the canal. See F. S. R. II, 55 (2), 57 (12) and 91 (4). Opinions seem to have varied as to what was meant by "stubborn resistance." See F. S. R. I., 82 (9). "Anything of an indefinite or conditional nature..... is to be avoided."

3. *The Flank Guard at ELOUGES, 24th August.*—There had been considerable difficulty in the retirement of parts of the II Corps from its positions south of the MONS-CONDE Canal, due partly to the action of the enemy and the unfavourable terrain, but also to lack of co-ordination in the retirement of the divisions of the Corps and the Cavalry Division on the west. Shortly after the commencement of the retirement of the 5th Division, which was the outermost of the Corps, the G. O. C. became aware that his left flank was seriously threatened by the premature withdrawal of the Cavalry Division. He at once asked the Cavalry Division to come back to his aid and at the same time formed a flank guard from the divisional reserve consisting of two battalions and a battery. This detachment was ordered to take up a position between AUDREGNIES and ELOUGES, about two miles to the west of the line of retirement of the main body of the Division. The Flank Guard and cavalry fought a delaying action for some hours and stopped the advance of the German IV Corps which was endeavouring to envelop the B. E. F. Lack of co-ordination of retreat from this position, Commander does not seem to have received any instructions as to how long it would

be before Division could be clear. One battalion did not receive orders to retire and was cut off; the stand made by this unit still further delayed the German advance.

Two instances of failure to co-ordinate retirement. That of II Corps and Cavalry Division with its attached Infantry Brigade might have led to disaster if not for the prompt measures for security taken by the 5th Division and the willing co-operation of the cavalry. Detachment fulfilled its mission, the main body retired in security and retained its liberty of action. Flank guard taking up a position, F. S. R. II, 50 (7). Note action of cavalry and use of their mobility. Difficulty of judging time to retire. See F. S. R. II, 52 (6) and 52 (3). Failure in communication of orders. Responsibility does not end with the issue of the order, Commander must ascertain that it has been received, and is being acted on.

4. *The action at NERY, 1st September.*—The 1st Cavalry Brigade and "L" Battery, R. H. A., halted for the night in the village of NERY and were under orders to move off again at 4-30 a.m., but owing to the mist, they were afterwards directed to start later. At 5-30 a.m., whilst they were watering horses and preparing breakfasts a patrol reported that large forces of enemy were in the vicinity. At the same time artillery fire was opened on the village, and rifle and machine gun fire broke out from the heights some 600 yards from, and overlooking, the village. The Brigade was surprised.

That the enemy should have been able to occupy a position within 600 yards of the village and bring artillery into action, shows complete failure in protection. There should have been outposts in position to prevent the occupation of the ground overlooking the village, and strong enough to gain time for the Brigade to prepare for action. That the column was about to move off is no reason why protection should have been neglected. Whatever the circumstances, it is not safe to neglect protection. Patrols are not sufficient, a detachment capable of gaining time is always necessary for force at rest. See F. S. R. II, 55 (2) and 57 (1). Note effect of discipline and good training, rapid recovery after initial surprise.

5. *An incident at LE CATEAU.*—At about 6 a.m. the 1st King's Own belonging to the 4th Division moved up preparatory to entrenching and halted in mass on the high ground east of LONGSART, about the cross roads. The 4th Division had no divisional cavalry or cyclists at this time, but French cavalry were supposed to be in front and to have reported "all clear." The morning was misty. The unit had no patrols out and no form of protection whatever was adopted, although the division had been engaged with the enemy the night before. Without any warning heavy machine gun fire was opened on this unit from the North at a range of about 800 yards, followed by heavy shelling from the North-West. The result was the infliction of 400 casualties in a few minutes.

Complete failure in local protection, and the use of an unsuitable formation as well as the selection of an exposed position for forming up. See F. S. R. 43 (especially para. 8) and 49 (1). Necessity for providing for local protection, and the danger of relying on vague reports such as "there are cavalry in front" or "no enemy in the vicinity." Several other examples failure in local protection in this battle. Troops very tired.

6. *Security of Communications.*—The German armies during their advance through Belgium had not succeeded in driving the Belgian army southwards. Somewhat shaken, but more or less intact, it had managed to retire under the cover of the fortress of ANTWERP. From this position it was on the flank of the communications of the German right wing armies which converged at LIEGE. To observe the Belgian army and to protect his communications, Von Kluck detached the III Reserve Corps with some Landwehr, and later, on its arrival from Germany, the IX Reserve Corps. In addition Landsturm troops were distributed along the railways for the protection of vital points.

The principle of security was fulfilled, the communications were adequately guarded, but at the expense of the vital striking wing of the German armies. This is an example of the difficulty of applying the principles of war in harmony. Three other principles were involved in this case, and the

violation of the principle of concentration was forced on the Commander of the First Army by the needs of security. He was bound to make this detachment. There was no strategical reserve, but when the necessity for this detachment arose, through the escape of the Belgian Army, reinforcements should have been sent to the First Army from the forces in LORRAINE. Such railway facilities existed as would have allowed at least two corps reaching the First Army before the crisis on the Marne on the 8th September. See F. S. R. II, 2 (2 vi). "The security of a force and its communications is the first responsibility of a Commander."

7. *The German First Army, 30th August to the 9th September.*—After the battle of Guise, 29-30th August, the Second Army, instead of adhering to the original plan, whereby it was to advance direct on PARIS, followed the French Fifth Army due south, and the First Army turned south-east in an endeavour to envelop the French. On the night 2-3rd September orders were issued by O. H. L. approving this, but ordering the First Army to undertake the protection of the right flank by moving in echelon behind the Second Army. (Incidentally Von Kluck had all along been responsible for the right flank). The First Army was considerably in advance of the Second Army at the time, and Von Kluck considered it would be fatal to the plan of envelopment to move in rear of the Second Army; so he did not do so. But, as a result of the above orders, he detailed the IV Reserve Corps, less one brigade, and the 4th Cavalry Division to act as flank guard; they were to move in rear of the right of the Army. This flank guard came into touch with the newly formed French Sixth Army, but do not appear to have discovered anything of importance on that day. As early as the 28th August the first Army had been in touch with the nucleus of the French Sixth Army, and in striking south-east on the 1st September the Cavalry Corps had again come into touch with the B. E. F. With the exception of another blow in the air directed against the B. E. F., these forces were ignored and no attempt made to find out what was happening behind the screen of protective troops. On the evening of the 5th

September the First Army had four Corps (II, IV, III, and IX) South of the MARNE and the remaining two Cavalry Divisions of the Cavalry Corps south of the GRAND MORIN. The flank guard was north of the MARNE near MEAUX facing west, and about to attack the Sixth Army to clear up the situation. Von Kluck, in accordance with orders from O. H. L. who were beginning to suspect that all was not well, was about to take position between the MARNE and the OISE to face PARIS. During the night 5-6th September he heard that the flank guard was engaged with superior French forces, and at once decided to attack them. A few hours later the II and IV Corps began to move to the aid of the flank guard across the OURCQ. Even now the strength of the Sixth Army does not seem to have been realized, for it was not until the 7th that the III and IX Corps were moved across towards the OURCQ. The two Cavalry Divisions and weak rear guards of the II and IV Corps were left on the GRAND MORIN. A gap thus arose between the First and Second Armies into which the B. E. F. and part of the French Fifth Army penetrated. The rear guards were driven back although Von Kluck reinforced them from troops destined for his battle on the OURCQ. The Second Army sent some of its cavalry into the gap, but too late.

These operations are doubtless an excellent example of **SURPRISE**, but it is the mission of **SECURITY TO PREVENT SURPRISE**. See F. S. R. II, 43 (3 and 4). We may note the failure of the flank guard cavalry to obtain information about the Sixth Army, and that the Cavalry Corps did not maintain touch with the B. E. F. See F. S. R. II, 43 (7) and 36 (5). By the 9th September, the First Army had lost its liberty of action, as its protective detachments had failed, partly through mishandling, partly because they were not strong enough for their task. They did not gain the time and space necessary to enable Von Kluck to retain his liberty of action. See F. S. R. II, 43 (7) and 23 (4). These operations also show the necessity for special measures for the security of an enveloping wing, F. S. R. II, 31 (1). Note effect of this surprise on moral of O. H. L. and on the German troops who had marched far and fast, buoyed up with the hope of an early decisive success. Determination of Von

Kluck to get out of his difficulties by attack. The security of the German communications threatened by Sixth Army, hence far reaching effect. See F. S. R. II, 25 (1).

The above examples are not intended to be a complete extract of incidents in the period chosen bearing on security, they have been selected rather as illustrations of different aspects of the principle and to show the method suggested for study. It will have been seen how the consideration of events bearing on one principle will draw attention to others.

The next step, as suggested above, is to consider what might have been done to apply the principles to a certain incident. As an example of applying this to No. 5, above, the following is a suggested solution :—

"The object was to dig in, presumably on the ridge above LONGSART. The Hill south-west of FONTAINE AU PIRE was held by the next Brigade. Morning misty, patrols necessary, but will not suffice to gain time for the battalion to prepare for action. Therefore send out covering force on front RIOT DE CARNIERE-ESTOUMEL-LONGSART ROAD, both inclusive, to about 800 yards forward of 120 metre contour. Detail a company to find this force, also an officer's patrol to ascertain if CATTENIERES and WAMBAIX are occupied or not by the enemy. Inform units on right and left. Company detailed to send out two platoons, divide front between them and name Commander. Give definite orders as to withdrawal. Platoons to keep concentrated, so as to be able to act according to circumstances, but with posts watching lines of approach, and patrols well forward until mist clears. Detail a cyclist orderly to officer's patrol and O. C. covering force. Top of ridge bad place for forming up the battalion preparatory to entrenching, moreover no need to get into mass, artillery formation much safer until work can start, which will be when the covering force is in position. Therefore, move up the battalion in artillery formation, and halt with leading platoons just below the crest above the WARNELLE RAVINE."

Another solution, that of each company watching its own front whilst entrenching, does not in the circumstances seem so good as that above, moreover the co-ordination of the action and withdrawal of four separate detachments would present considerable difficulty.

It is thought that the officer who studies the principles in this manner cannot fail to be impressed with the necessity of giving them due weight in all his decisions. One who has studied security, as suggested above, is less likely to commit the same errors as are shown in the incident at LE CATEAU, than if he had merely a hazy impression of a few text-book phrases, learnt parrot-fashion.

SOME ASPECTS OF THE MILITARY ROAD TRANSPORT PROBLEM.

By

LIEUTENANT H. J. COOPER, R. A. S. C.

"War is first and foremost a matter of movement."

Henderson.

In an endeavour to trace the history and to probe the organization of the branches of the Army which are concerned with transport, the student meets with some difficulty. Partially is this the case because the services work in the comparative obscurity of rearward areas and only receive undivided attention when the fierce light of failure beats on them, or when they are subjected to cross-examination by a Royal Commission. Partially also in some measure is the difficulty due to the fact that administrative methods and rearwards organizations receive only scant attention from the historian, but chiefly because the literature of the transport services in the libraries of the great nations is singularly small. A further reason for this obscurity lies in the fact that transport operations on a war scale with even a few units are impossible to rehearse in manœuvres neither can war conditions be produced in exercises. Thus if the soldier, by circumstances beyond his control, is precluded from acting in advance, he must think in advance, since to do even a little he must know a very great deal and know it well.

The organization of the agencies of transport in a fighting service is dependent to some considerable extent on the organization of similar civil agencies which operate in time of peace, since the army is now more closely allied to the nation than has been the case in the past this factor becomes of extreme importance. Thus before proceeding to an examination of the military problem, it is of value to consider the civil system in principle, that the greater may be considered before the lesser. The Ministry of Transport co-ordinates the various links in the chain of national transportation. The core is the railway, since the majority of miles which are travelled by any form of merchandise from the port to the consumer are rail-miles. Before the port is reached the merchandise has possibly been carried on coastal steamers owned by the railway or by ocean-going vessels with which the railways are but remotely concerned. After the goods are unloaded at

a railway station or siding they are delivered or can be delivered to the consumer by agencies owned or hired by the railway authority. The railways are thus seen to provide a single chain of transportation from the port, or from any intermediate station, to the consumer. It has, however, to be remembered that a normal short distance or distributing agency may by intensive use be used collaterally with the main system and under certain circumstances may enter into serious competition with it, also that all distributing agencies are not owned by railway companies, as privately owned vehicles, vehicles of municipalities, of private and of public companies enter into competition with rail cartage agents. In addition, the route from the producer to the consumer does not always impel the use of railway, and distributing agencies are sufficient. The nature of the vehicles of haulage of the railway and of carriage of the other agencies form the subject of later consideration.

Adverting now to the military problem, which is similar in principle to, and simpler in detail than, the civil problem. And this for several reasons. In peace many small installations, *i. e.*, families have to be supplied under an almost limitless variation of quantity, time, and place; the distributing agency may have to draw *en gros* and *en détail* from many sources. In war the agents of production and of supply and the main and distributing transport systems take on a national character, do not compete with each other for traffic, neither have they in the past been pressed to shew a dividend. Many soldiers now serving are able to remember campaigns being conducted with the aid of rail transport on a less intensive scale than movement is now based and this rail transport being supplemented in the field with the sole aid of animal transport, either pack or draught.* The progress of science in this sphere has carried out a great alteration. The advent of mechanical transport, and the substitution of sails in ships by engine and turbines, created a new mobility of soldiers and of their paraphernalia: thus the pace of war was able to be increased. During the past eight years there has been considerable reorientation of the ideas of time and space within the army, but they seem to have left but little real impression on military transport organization. The reasons for this are manifold. In the first place the relation between the troops and

* The use of tractors and trailers, the Renard train and some experimental vehicles is not ignored but is left for later amplification.

their rearward services have in the past been very slender. Again, the rate of progression of troops in marching order on roads has been equal to, and sometimes in excess of, the rate of progression of the animal transport. Further, the invention of the supply column and ammunition park,* which was tried out in the manoeuvres of 1912, was not assimilated by the army when the 1914 campaign commenced.

The vehicles of transport used by the army to-day are divisible broadly into nine classes :—

1. Carrier, *i. e.*, human pack including human barrow.
2. Animal pack.
3. Animal wheeled.
4. Mechanical wheeled.
5. Mechanical track including semi-track of which railways, tanks, and the Kegeresse vehicle are variants.
6. Ropeways.
7. Inland water transport.
8. Air transport.

This essay purports to deal only with (1) to (5) but with only such part of (5) as excludes railways of all gauges.

1. In the first instance the transport vehicles are the bodies of the indigenous population. Their provision is dependent on knowledge of local conditions. The care of carriers and their use depend upon medical skill and more than the usual knowledge of human endurance.

2. Animal pack and animal wheeled transport may be conveniently considered together, they fall severally into two groups :—

- (1) That which is indigenous.
- (2) That which is imported with a force.

Here again requisitioning ability, the utilization of knowledge of local conditions and circumstances, play an important part in the primary transport arrangements of an expedition. But this is not all sufficing. There must be in peace a highly organized system of economic reconnaissance in order that all potential theatres of war may be brought within the ambit of study of the administrative officer.

*Due to the prescience of the late Brig-General Gerard Paul, C. B., C. M. G., and Captain (now Sir H. F. P.) Percival, K.C.M.G.

No violent evolutionary change is anticipated with regard to either animal or vehicle in any theatre, and in addition the evolution of the limbered G. S. Waggon and the G. S. Waggon seems to have ceased.

3. The varying methods of transport grouped under "Mechanical Wheeled" comprise those which run without the aid of a rail track on two or more wheels unconnected by any form of belt device. Their design, provision and repair exercise an enormous industry in peace, and form a highly specialised military problem. The design of the vehicles necessary to wage war is dependent upon the design of the vehicles used to aid the normal process of civilized life. An Army is forced to start a campaign with impressed vehicles, it being impracticable for many reasons to hold special vehicles as part of mobilization equipment. With the progress of a campaign new vehicles can be made to special designs if adequate research has been carried out in peace, a few special experimental vehicles being provided as funds and opportunity offer.

The design of road vehicles will alter. It is not supposed for instance that the present lorries, heavy or light, are the last word in road vehicular transport. It is not beyond the power of the least imaginative to visualise a vehicle capable of carrying any weight, up to say three tons and hauling one or more trailers, all being fitted with pneumatic tyres, the whole being capable of steerage from either end. Each wheel of the motor vehicle driven electrically with easily detachable power units; suspension being hydraulically achieved and pneumatically buffered; steering operated hydraulically and brake gear electrically or hydraulically controlled; the engine using alcohol as fuel and the vehicle controlled from some sort of tower over the place now occupied by the bonnet. Each of these seemingly startling developments has been tried singly with a measure of success both in this country and on the continent, and it is certain that the ingenuity of engineers will harness all together to aid the arts of peace and the prosecution of war.

The provision of the vehicles for an expeditionary force is governed by various schemes of subsidisation and also the law of impressment of carriages.

Their repair is a contentious matter. No single branch or service is charged with the task. No less than four branches take a

hand in vehicle repair, though four branches do not combine to restore the broken warrior to health. The operation of the vehicles and maintenance of the track upon which they normally run—the roads—is a complex question about which there is considerable diversity of opinion. The operation of the vehicles is inseparably bound together with their light repair and the maintenance of the roads, though our Field Service Regulations bifurcate these duties. A study of foreign problems and their solutions will help all to take a less narrow view. With the increase of the intensity of traffic, movement in forward areas will become more difficult, and if it is to be controlled with the greatest measure of success, then there must be the maximum co-operation.

5. The transport which is described as “Mechanical track” is that of the tank and caterpillar type which runs on a self-laying track instead of on wheels. This essay also includes the semi-track vehicle of the Kegeresse-Crossley and Morris-Martel type. Its appearance is familiar to many. The design of the vehicles falling in this category is dependent entirely on experiment and research, and their provision is a matter of some uncertainty; though on the day of mobilization, armament factories would be ready to deal with limited orders.

The repair of these vehicles is not vested in the branch which is concerned with wheeled road transport. Efficiency of maintenance does not appear to be achieved if one branch is responsible for but part of a transport system. The operation of track vehicles which are used for both carriage and haulage, rests solely with the General Staff. They are fighting transport not normally subject to administrative time-tables, though the use of tanks and light track vehicles for duties in connection with supplies makes the supply problem more complicated and has the effect of placing a purely “fighting unit” under partial administrative control. The light repair of tanks and other track vehicles is carried out by special units belonging to the corps concerned; this light repair includes salvage. The maintenance of the track, which is the whole land surface of an area, naturally does not arise, though sections are devoted to the bridging of streams, natural and men-made fissures, and trenches.

Having now outlined in brief the main features of the various forms of transport available for use forward of railhead by units, it is

relevant to proceed to a consideration of the country over which they will operate.

1. Carrier transport can operate in light marsh, forest and all other forms of more open ground ; it is used when all else fails.

2. Animal pack transport can operate in mud, mountainous country, on mountainous tracks, sand, through scrub and some forest growth together with all ground which is more open. It is the penultimate system to which a commander has resort.

3. Animal wheeled transport is confined to roads, wide tracks and firm ground. Progress can be made through mud which has a sound foundation and some light marsh is also capable of negotiation.

4. Mechanical wheeled transport is capable of operating on roads, tracks, firm ground, some shallow marsh and small depths of sand and light-marsh, canals, streams with shelving banks up to 5' in depth are negotiable by the newest wheeled Vehicles.

5. For mechanical track vehicles the most extravagant claims have been made, many of which have been substantiated. The Sahara has been crossed, bogs have been traversed and terrain impracticable for horse-drawn artillery has been successfully negotiated. If the pressure on the ground can be more generally distributed it will become possible to operate in Fen districts with mechanical units. Water, deep cuttings, deeply tilled soil, rocky slopes and forests are the greatest obstacles to this class of transport. Roads naturally can be used though the vehicles destroy the surface, more particularly during wet weather and immediately after a thaw.

To consider now the relation between the traffic and the roads. It is clear that all transport works most efficiently when operating on a prepared track which in the situations now under discussion is the road. The one outstanding feature of the forward transport situation is road-carrying capacity. The design, provision and repair of roads has lagged seriously behind the corresponding factors in vehicles. The present methods of road design, construction and maintenance are fundamentally unsound ; the materials too are unsuitable, and yet how loath is everyone to introduce new ideas in design and construction, more enlightened methods of maintenance and the use of other less friable materials. It is inadequately understood by all that it is but folly to increase the weight and intensity of traffic on any surface without making suitable arrangements for its

strengthening. Frost and rain can, at the present moment, create almost complete paralysis in road traffic in any theatre ; this being acknowledged how very necessary it is to make them if not impervious to nature, at least more proof against wear and tear. Those votaries of road transport who have but narrow vision should always remember that the laying of a track or the siting of a ropeway is a cheaper proposition than the construction of a road ; both are movable ; a road, of all things, is a fixture. In peace the demand for wheeled transport will vary as the number and the conditions of roads, and the number of vehicles in any given area available for impressment is thus delimited. The capacity of the various merchandise carrying routes, tracks, roads, railways and waterways of a country is an important consideration in determining its military capacity.

The control of the traffic of the roads in the forward area is a delicate subject. The Military Police employed on traffic control operate direct under the General Staff ; the vehicles function under the Quartermaster-General's Staff : then it seems if the maximum of co-operation is to be ensured, those who operate the vehicles must control the traffic. Here the railway analogy may be considered. The Traffic Department and Signal Department are both part of the Operating Section of the railway group. The Commission Regulatrice Automobile in France controlled in detail and with some stringency all traffic on particular roads, though it is to be doubted if such a system could be perfected outside national frontiers. Wholesome lessons may be learnt from these sources.

Traffic control is inextricably mixed up with traffic operation, and many empty miles will be saved if it is vested in the Transport Directorate.

The British forces in the last campaign adhered to the specialisation doctrine of transport, in that one unit was devised, mobilised and useful for one particular task, from which it was but rarely and with the greatest difficulty even partially diverted. Other nations preferred the doctrine of non-specialisation, in that transport units were self-contained administrative entities capable at any moment of being diverted from one task to another. It is considered that if specialist vehicles be allotted to the carriage of meat and possibly bread, then all other road transport operations can be performed equally well by all vehicles over given conditions of terrain.

To proceed to a consideration of the administrative aspect during war.

The main transport system of a force comprises the railways and in-land water transport; the distributing system is created by road transport, light railways and tramways.

The two systems are dealt with by more than one Directorate.

It is prescribed that the transportation service is responsible for the construction, maintenance and operation of railways of all gauges; (1) that the S. & T. directorate is responsible for the provision and maintenance of all non-fighting transport; (2) that the Ordnance service is responsible for the L of C repairs to certain vehicles; (3) that the design and construction of camouflage material is vested in the Works services; (4) also that the second line repair of tanks is vested in the Royal Tank Corps. Thus upon the transport vehicles operating up to, and in front of, railhead are the hands of five separate services heavily laid, and in road transport are four services engaged.

To turn now to the system of road transport. It is partially grouped under a Director of Supplies and Transport whose efforts are partially co-ordinated together with those of others, by the D. Q. M. G. (M), (5) of the force. A further complication is the departmental recognition of the complete sub-division of Supply and Transport duties during war. The logical expansion of the present organization into the national sphere would result in the combination of the Ministries of Food and Transport—an absurdity.

To set the mind working on the logical elaboration of defined administrative duties is to discover some anomalies and to emphasise the fact that a reorientation of these duties is inevitable but that the latent conservation of human nature is an obstacle to its consummation. When visualizing a system it is easy to conceive of one man performing one task in perpetuity, the suitability of the task to the man is of secondary importance. This spirit of specialization is fatal indeed within the administration of an army it is impossible of exis-

1. F. S. R., Vol. I, Section 43 (XIV).
2. F. S. R., Vol. I, Section 43 (XII).
3. F. S. R., Vol. I, Section 45 (5).
4. F. S. R., Vol. I, Section 43 (XIV),
5. Manual of Movement, Section 23.

tence. A period of regimental service is prescribed for every staff officer, a re-arrangement of the duties within a unit increases the ability of each of its members. Were it not so the pursuit of specialization would lead to the establishment of a trades union of the intellect.

In conclusion—but a few of the multitudinous and varied aspects of the important problem of road transport have been discussed from the point of view of the army as a whole, ignoring the specialist claims of the various services. The infantry will be the better served if the technical branches concerned are grouped together under the aegis of one service or corps, the officers of which may spend their earlier years and the period of their regimental service in working with, and training the men whom they will command in war and undergoing courses which, while increasing their technical ability, will also improve their tactical efficiency. In the past, this application has been made difficult of realization owing to the efforts of the various corps and departments not being adequately co-ordinated.

A solution to the traffic problem has been offered which, although being unorthodox is thought to be more in consonance with future conditions than the system now outlined by regulation.

The design of vehicles has been lightly touched on to indicate that the vehicles used in the last campaign are capable of improvement and that their factor of performance over trackless country is on the increase.

The principle of non-specialization which is of continental origin has been given prominence in order to combat current fables on the subject of the use of vehicles.

The anomalies of administration are laid bare in order to emphasise the fact that the pace at which war will be fought in the future will render simplicity of organization a vital consideration. No transport corps can operate efficiently unless it has control of all means of transport. The various services now concerned with movement should be under one control and form part of one corps or service.

Finally, the pressure of time on any military organization is a steadily increasing factor: with the passage of each training season it

becomes noticeably greater that every task has to be performed with greater celerity and therefore greater precision. Greater rapidity of thought and action will be required of those concerned with the administration of transport more especially with regard to those who are concerned with vehicles operating in advance of railhead. A principle is of greater import than a precedent, the principle of non-specialization is of more importance than the precedent afforded by the continuous operation of railways by the Royal Engineers. The principle is rooted in fact and in history ; the precedent crumbles with the passage of time.

THE EVOLUTION OF THE SOCIALIST MOVEMENT IN GREAT BRITAIN, WITH SPECIAL REFERENCE TO TRADE UNIONS.

Being an Outline of the Notes for two Lectures delivered at Simla in August, 1926.

By

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The Primary object of a Trade Union was to assist the worker to obtain in technical or industrial matters, what he could not get by himself.

Hence the origin of Trade Unions was a purely Economic one ; but their growth was dependent on, and coincident with, the extension of the franchise, and the evolution, generally, of the Socialist movement ; so their development, politically, to a very marked degree, was inevitable.

Our aim is first to trace the origin and reason of Trade Unions ; then their progress from repression to recognition ; and, finally, their political development and present situation.

1. *Historical Development.*

To understand the present situation, we must consider briefly the history of industrial development in Great Britain.

Looking at the years from the start of our earliest history to the present day as a whole, we find one outstanding factor which divides the period into two, as sharply as anything can be divided. That is the invention of machinery. The word "machinery" is used in a very broad sense. To include not only the Spinning Jenny of Hargreaves, and the process of producing coke and of "puddling" iron and the like, but also railways, telegraphy, and all similar introductions.

This era of invention is known as the "Industrial Revolution." It started about 1760, and lasted really about 50 years. This period did not, of course, include all or even most of the inventions, but it did practically serve to change the country, and was in effect a gradual revolution of all that went before. Now if we consider the first portion of our period, we can divide it again into three main heads :—

- (a) The Family Stage—up to 1066.
- (b) The Artisan Stage—up to 1450.
- (c) The Domestic Stage—up to 1760.

In (a) the family groups are practically self-sufficing and independent, producing all they need for themselves.

In (b) the gradual recognition of the division of labour is apparent. One man spends his time producing one thing which he barter for various things he wants—we get a number of specialised occupations—bakers, tailors, etc., and two points are worth noticing.

One, an increase of wealth by the introduction of exchange.

Two, the first appearance of the artisan, making what he does not want, to part with to someone else in return for what he does want. This is all right, as long as he can find a purchaser or someone to take his goods. If he cannot, we find him unemployed.

So, by the operation of the Division of Labour, we get possible unemployment, due to no fault of the man's; but we do not get labour troubles—as the producer is his own master.

In (c) the third stage (but, of course, there is no really sharply defined line—earlier stages exist with new stages—as for instance, the village bootmaker and the job printer, but the general tendency is to change—) the worker still works in his own home. But he is no longer his own employer. The rise of wealth has resulted in inequalities which bring about the divorce of the man producing the work from the man providing the capital.

“Home work” is one characteristic of this stage, and we find in it, the first instances of the conflict of Capital and Labour (strikes). But the workers' powers were less; and their power of combination poor, also in many cases the employé worked side by side with his employer and absorbed the latter's ideas, and did not do much independent thinking. Overwork and sweated labour, are characteristic of this stage.

2. *The Effect of the Industrial Revolution on:—*

(a). *The people.*

In 1760, England was mainly an agricultural country, most people were employed in the fields; the country was mainly “open fields” worked under the manorial system that survived from the Middle Ages. No factories. Communications slow. Roads execrable. Conveyance of heavy goods practically impossible. Even in 1837, Sir Robert Peel took as long to come from Rome, as it took Constantine the Great, in 300 A. D. to go from England to Rome.

The population of England and Wales, which had been increasing slowly for centuries, doubled itself between 1750 and 1830, and was redistributed. In the older England, the bulk of the population lived in the south-eastern plain because the country was mainly agricultural. The north-west was pastoral and sparsely populated. Now the bulk of the population is in towns north of the Trent.

This displacement had important social effects. People were transplanted among strangers—all bewildered; and with no local connections or traditions; so they lacked the self-respect and balance due to tradition.

The Industrial system also created the pure wage-earner, or, at least, made him the chief type. Up to 1760, he was the exception. Comparatively few were completely separated from the land, and were dependent on finding employment in a factory, where the only connection with their employer was what Carlyle calls the "Cash-nexus."

The typical John Bull of Punch is really pre-revolution. No nation on earth is more urban, or less entitled to be represented, nationally, as a farmer. A miner or a factory hand would more nearly represent the national or typical Englishman. We can hardly support ourselves for 6 weeks on our own agricultural productions.

So the Industrial Revolution, by the introduction of machinery, and the driving of the workers into industrial areas, and to work in big factories, replaced the Domestic system by the Factory system, and emphasized more clearly the differences between Capital and Labour.

(b). The Country.

Whether the majority of inventions came from Great Britain or not—a debatable point—there is no doubt that the fillip and impetus to further inventing came from that country, which had the wealth to exploit it. By this means we got a start of other nations, and, as it happened, there broke over Europe a series of occurrences which ended by giving us, in our island position, practically 50 years start of other nations. Between 1780, and 1800 these inventions were beginning to make themselves felt. At this time the Napoleonic wars broke out, and England was the only nation which was not ravaged. All continental progress was at a standstill; but our enterprise progressed. A deal of our wealth was expended on these wars, but

comparatively few of our personnel, who were free to build up these enterprises.

Our expenditure in the wars was really small in comparison with our increase in wealth. Pitt was "the Paymaster of Europe." Napoleon's greatest efforts were consequently devoted to crippling our trade. After getting a hold over Europe, he started out by issuing the Decrees of Milan in 1807. These ordered that British goods should not be bought or sold in any countries in which his armies held sway. He hoped to shut out the manufacturers of Great Britain from the markets of Europe. He did not succeed, and, in the end, when preparing for the march to Moscow, he himself had no alternative but to clothe his troops in woollen goods made in Yorkshire. It is thus easy to see how in the early and mid-Victorian period it came to be regarded as a law of nature that Britain always was and would be first in manufacture. In reality it was a concatenation of circumstances, of which we became aware only after 1830 when the other nations began to catch us up.

The gradual developments outlined above, brought Capital and Labour often in conflict.

Economic conditions after Waterloo combined with an awakening to the avoidable hardships of the industrial system, brought about a general desire for social reform. The attitude of the Government at home had for long been hostile to reform due to the influence of the French Revolution.

In 1799 and 1800, the government was obsessed with the idea that French revolutionary opinions might spread among wage earners; common action was feared. The famous Combination Laws were passed, forbidding workmen to organise either to raise wages or shorten the hours of labour. "The Strike was a crime, the Trade Union an unlawful association."

"Crafts" existed; but trade clubs were severely denounced by employers, for two reasons:—Violent fluctuations of prices due to the war caused demands for increasing wages; fear of French revolutionary opinions spreading among the wage earners.

So workmen were forbidden to organise either to raise wages or to shorten hours of labour.

Dicey, considering Combination Laws in relation to Common Law of Conspiracy, says:—"Any artisan who organised a strike,

or joined a trade union was a criminal and liable on conviction to imprisonment; the strike was a crime, the trade union was an unlawful association."

Trade depression became acute in the years after 1815, when, "on the day peace was signed, the greatest customer of Great Britain died." The state of agriculture and trade was chaotic, taxation enormous; paper money inconvertible and widespread; labour seething with unrest, but inarticulate—and 1819 culminated in the Manchester Riots.

It was in such circumstances that Trade Unions were born.

3. *Original Object of Trade Unions.*

We must bear in mind that Trade Unions, in their origin were, therefore, solely organisations or combinations to obtain for the man what he could not get for himself industrially. They were technical bargaining organisations. The arguments for a Trade Union are two, and only two:—

- (i) If there are two parties to a bargain, and one cannot hold out for very long, the chances are against that party. This becomes still more pronounced if the other party can hold out indefinitely.
- (ii) The determination of wages is a matter of negotiation, and very often of negotiation of a very intricate nature. It is a business by itself in a highly organised concern, such as the cotton trade: the workman argues that it is really none of his business, but it is the business of the employer. So, says the workman, without a union, I am the amateur against the professional. So I will have a paid servant—not the employers' but mine—who will be a professional and bargain for me.

Two points on which the workman lays great stress:—

- (i) That in the long run the workman is as necessary to the employer as the latter is to the workman, but the necessity is not so immediate (*cf.* Adam Smith 150 years ago).
- (ii) The argument of the Reserve Price (*cf.* the minimum wage now). An isolated man has no reserve price, and only a Trade Union can save him from this. In this connection, remember "victimisation"—a frequent cry.

So, in all the most prolonged and bitter disputes, the bone of contention, though now, universally admitted was to be allowed to bargain through a Trade Union official, *i. e.*, the recognition of the Trade Union. This was the cause of the big threatened railway strike in 1911—whether unions could bargain through Richard Bell, their General Secretary. The argument of the master is that he won't have his business interfered with by an outsider; of the men, that they are selling their labour, like a man selling land, and need an expert to do it and that it is an insult to the dignity of labour to deny it the right to sell its work through an agent.

4. *The Growth of Trade Unions Economically.*

Two things must be recognised :—

- (1) That Trade Unions have reached their present firm position only after a very chequered career.
- (2) That only the growth and extension of the franchise and of the social policy of the last 80 years have made this position possible.

We cannot separate Trade Unions from the general economic evolution of the country at large. How was Parliament organised about 1830? A House of 513 English, 45 Scotch, and 100 Irish members; in which 154 *Individuals* possessed the right of returning 307 members. Cornwall had 44, and Scotland 45 members. Lancashire 14 members; Old Sarum, with 7 voters, had two members; Dunwich, almost swept into the sea, had two members. Leeds, Birmingham and Manchester were unrepresented. The franchise belonged to a small minority, whose votes were openly bought and sold. ("Rotten Boroughs").

What were the results of Reform Agitation?

First Result.—Repeal of Combination Laws in 1824, due to Francis Place, an Individualist. But the activities of any Trade Combination were limited by the Law of Conspiracy, which might be invoked if any workmen interfered with the free action of others.

Second Result.—Reform Act of 1832 made an enormous impression. Disfranchised 57 boroughs, and reduced the membership of 30 others to one member each. Regarded as a great inroad on the rights

of property. Counties got 62 additional seats. 63 given to boroughs and cities hitherto unrepresented. Franchise still restricted. Admitted middle class to power. Made House of Commons representative, but of a minority.

The further developments in the extension of the franchise were :—

Reform Act 1867 (Enfranchisement of the Artisan in the Boroughs, Lodger Franchise).

Representation of the People Act 1884. (Enfranchisement of the Agricultural Labourers in Counties).

Representation of People Act of 1918. (Universal suffrage for men—Franchise for women over 30 years of age).

Side by side with Franchise developments, we see the legal development of Trade Unions, from repression through toleration, to a position unique in law.

- (a) Trade Union Act 1871 (Unions recognised as legal).
- (b) Conspiracy and Protection of Property Act 1875. (Limiting application of law of conspiracy. Peaceful picketing legal).
- (c) Taff Vale Judgment, 1901. (Union responsible for illegal acts of members and agents).
- (d) Trades Dispute Act 1906. (The Charter of Trade Unionism giving unlimited immunity from civil actions).
- (e) Osborne Judgment 1908. (Political levy illegal).
- (f) Trade Union Act, 1913. (Legalising political levy).

5. *The Value of Trade Unions.*

Economically and industrially of great value. They prevent victimisation, are an excellent means of negotiation, and can tend to promote a moderate tone and to educate their members.

Their organization on a purely political or party basis is to be deprecated—but was inevitable.

Socialist leaders have always recognised Trade Unions as the most suitable instrument for the purpose of securing the support of the masses ; from 1890 onwards we see the political side of Trade Unions developing, and becoming of more and more account compared with their economic role.

6. *The Political side of Trade Unions—up to end of War.*

The time of the birth of the earlier unions was one of general excitement—a political revolution in France in 1830, and in England the agitation for electoral reform infected the unions with a strong political bent. But the passage of the Reform Bill and the events leading up to the Chartist Riots in 1848 caused divisions in the unions. The political side drifted away from the Trade Union side, which later, after the Chartist debacle contented itself with constitutional action, and was rewarded with the legislation of the seventies.

This continued till well in to the eighties. The Trade Unions were Radical and Constitutional.

In the eighties arose the new unionism of Tom Mann and John Burns—Collectivism *versus* Individualism. The other unions were alarmed. But the Trafalgar Square Riots in 1887 and London Dock Strike in 1889 resulted in the formation of unions of unskilled workers, which had not existed previously.

New Unionism believed in collective working through existing democratic institutions. It urged the formation of a Parliamentary Labour Party, rather than political pressure through existing parties on the Government for specific remedies as formerly.

7. *Early Days of Socialism.*

Socialism developed on the Continent, as a result of the Napoleonic wars, much as Trade Unions developed in Great Britain.

The Central Principle of Socialism is Common or Public Ownership of Capital.

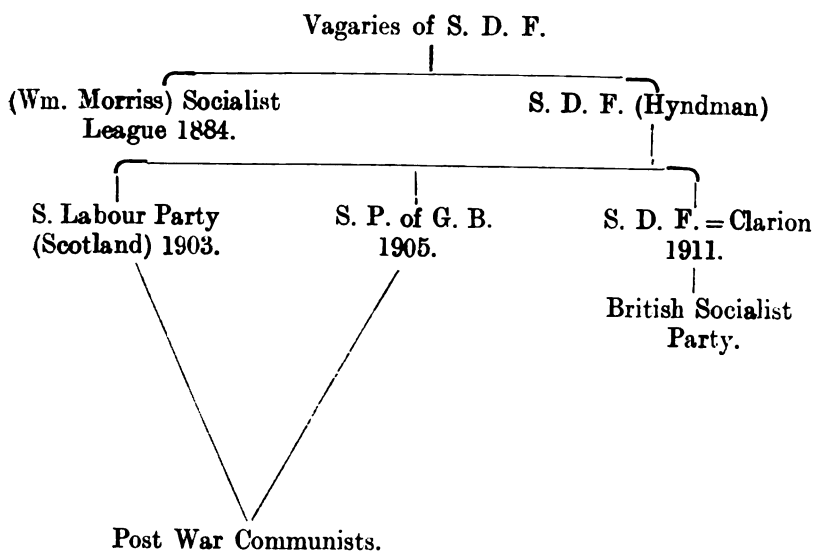
The history of Socialism presents many different aspects ; to some it is a policy ; to others a theory or aspiration. There are sharp divisions with regard, both to its aims and also to the means to be adopted to gain its ends. Its practical defects lead inevitably to divisions and dissensions.

On the Continent Socialism preceded Trade Unions.

Trade Unionism in Germany was only established in 1869, AFTER the foundation of the German Social Democratic Party, which owed its origin to Karl Marx. This, in contrast to Great Britain where Trade Unionism was well developed before Socialism was introduced, and, since 1848, had been proceeding on Constitutional lines.

8. *Socialist Developments in Great Britain.*

(a) *Social Democratic Federation*.—The foundation in 1881, in Great Britain of the Social Democratic Federation did not get hold of the Trade Unions. It was too doctrinaire for Great Britain, but its history is interesting, as confirming the fact that Trade Unions were not politically inclined to form a separate party.



(b) *The Fabians*, founded in 1884. Small membership but, up till recently, had a great influence because they contain the brains of the Socialist movement. Their aim:—Emancipation of land and industry from individual ownership, but only by constitutional means.

(c) *Independent Labour Party*, founded in 1893. Originally, due to a feeling that a less academic organisation than the S. D. F. was necessary to secure co-operation of organised labour. Immediate aim to detach Trade Unions from Liberal Party.

The three parties named above were the chief organisations concerned with Socialism in Great Britain.

9. *The Union of Trade Unions and Socialism. (Pre-war).*

In 1900, Labour Party formed owing to failure of I. L. P. to capture the working class electorate.

Started as a Labour Representative Committee formed at a joint meeting of delegates of T. U. and Socialist Societies in accordance with a resolution passed at Trade Union Congress in 1899—at bidding of I. L. P.

Up till this time, from the inception of the Parliamentary Committee of the T. U. Congress in 1869, Trades Unions had had *direct* representatives in Parliament. Early Labour members were essentially Liberals, returned to represent special interests, and to contribute special knowledge.

The L. R. C.—of which Mr. Ramsay Macdonald was the first secretary—was composed of representatives of:—

- (a) Trades Unions.
- (b) I. L. P.
- (c) Fabians.
- (d) S. D. F. (withdrew 1901).

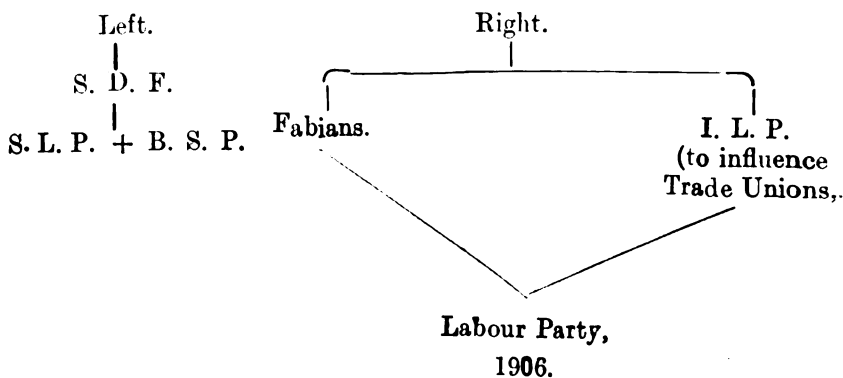
In 1906.—L. R. C. became Labour Party. Put up 50 candidates for Parliament in that year, and had 29 returned. In addition, there were in this Parliament 16 Miners' Union representatives, who were unaffiliated to the L. P.

In 1910.—Practically all Unions were affiliated and 42 members : elected to Parliament.

From 1910, till 1913 a slump in Parliamentary action—despite successes gained,—and a reversion to direct action. This, in keeping with general experience. In times of depression we find constitutional (political) action; in times of rising trade, industrial action.

In 1914, Labour Party became definitely committed to Collective Socialism:—"Aim to abolish poverty and class oppression, by bringing land and industrial capital under the ownership and control of the Community for the collective good of all."

Trade Unions and Socialism. (circa : 1914).



10. *Some Events in, and Effects of the War.*

The War had a very disruptive effect on Socialism in Great Britain. Labour leaders and Labour Party, as a whole, supported the cause, as in other countries.

Of Socialists, many stood aloof. Especially I. L. P.—Conscientious objection—from vaccination to war service—was extended for their benefit. I. L. P. suffered great unpopularity and decline in membership. British Socialist Party (S. D. F.) fared worse—Hyndman, (with “Justice”) was patriotic and became National Socialistic Party in 1916; the B. S. P. became Communist.

1915. Shop Stewards and Works Committee movement on Clyde. (Syndicalist).

1915. Triple Alliance (direct action) Miners, Railwaymen, and Transport Unions—result of Coal Strike in 1912—*Cf.* abortive attempt to use in 1921.

1917 meeting at Leeds, resolved to form Soviets (Kerensky’s enthusiastic reception).

All pointed to large post-war changes.

Representation of People Act 1918—added 8,000,000 electors, of whom 6,000,000 were women. In 1920, Labour tried to place men and women on complete electoral equality. General results of 1918 extension of franchise not so satisfactory, generally, as Labour expected Women’s vote is an uncertain factor.

February, 1918.—Adoption of new constitution by Labour Party. Previously a combination of Socialist Societies, trade unions, and local trade councils: *i. e.*, for corporations and not individuals. Now open to persons not belonging to any such organisation.

The objects:—

- (a) To promote a political labour party.
- (b) To co-operate with other similar bodies.
- (c) To promote, generally, the political, social and economic emancipation of the people.
- (d) To ensure the full fruits of their industry to producers by HAND and by BRAIN, on basis of common owners of means of production, etc.

Broadly speaking, Labour Party grew and extended influence after war.

Economic conditions stimulated a new spirit of enquiry among the more educated.

Socialism a fashion, especially among young men and women of intellectual pretensions—hence in vogue at Universities, which always take up the current cult. Similarly, the Church—or a section—always susceptible to the idols of the forum.

Political developments :—

1918. 361 seats contested—57 won.

1922. 414 seats contested—142 won. (Official opposition).

1923. 447 seats contested—191 won. (Second largest party formed Government.)

1924. 514 seats contested—150 won.

11. *International Socialism.*

Socialism as a movement for the economic reorganisation of society, necessarily has an international outlook, because the conditions it desires to reform are common to all countries, though in different stages of development.

Any country which adopted it alone, would be left in a state of isolation, as Russia is to-day ; hence the reasons for the persistent endeavours of the Moscow Government to make other nations follow their example.

First International.

In 1862, Karl Marx, living in London, took advantage of presence of German and French workmen in London in connection with the Exhibition, and formed “ International Association of working men ”—the first (or old) International. Not really a workmen’s organisation, but an institution for propagating Marxism. Died, owing to split between Marx and Bakunin (anarchist), and to Franco-Prussian War, which knocked Internationalism on the head for the time being. It revealed irreconcilable differences of opinion, *e. g.* by strongly supporting Commune in 1871, completely alienated British Section.

International Socialism must be opposed to war which divides nations vertically, and unites classes within the nations. Socialism endeavours to unite nations vertically, and to split each horizontally, in order to carry on class war in all.

The Second International was born in 1889, at a great congress in Paris to celebrate centenary of French Revolution. Annual conferences

later at Brussels, Zurich, etc. Question was where to draw the line? Anarchists and advocates of physical force expelled.

Permanent office in Brussels. Attitude towards war was to educate youth against it; to vote against military expenditure, etc., etc., and still to take advantage of the economic and political crises war creates, to precipitate the overthrow of the capitalist régime.

Annual Conference sitting in Paris on 1st August, 1914. At loggerheads over attitude of members in respective Parliaments to voting on credits for war. Result—Reality took place of theory—and 2nd International went up in smoke.

Third International.

Informal meetings in 1915 and 1916 in Switzerland, nominally to pull Second together, really a new movement under influence of Lenin.

Third Congress at Stockholm in 1917, under German auspices, a few weeks before Bolshevik *coup d'état*. Allied countries not represented at all: meeting consequently a failure.

In 1918, Bolsheviks had their hands full; but a movement by Inter Allied Socialists led to a conference (primarily on peace terms) at Berne in 1919 (February). Bolshevism discussed. Inevitable split—Bolshevism *versus* Menshevism.

Bolsheviks in Moscow determined to anticipate any opposing movement, and issued invitations in January to a Communist International to be held in March, 1919. So, the Third International was set up. Immediate and universal adoption of the Bolshevik policy. "Dictatorship of Proletariat," was the slogan.

Second Congress, August 1920—very optimistic and with good reason, for:—

The Red Army successful in Russia.

The Spartacists in Germany.

Bela Kun in Hungary.

In Italy Communism active.

In Austria an extreme left tendency.

In Great Britain ambitious and active "Councils of Action," 1920.

All contributed to a belief in world wide success. 35 countries represented. Zinovieff president. English representatives:—Quelch—

Gallacher—MacLaine—Pankhurst. *All* means towards a revolutionary end were recognised as right.

Third Congress, 1921 was less rosy—"Failure of Triple Alliance" in England and a severe blow in France, too, had produced some pessimism. So concentrated on functioning with, and agitating in, Trade Unions and formed Red International of Trade Unions in opposition to International Federation of Trade Unions (Amsterdam) founded in 1901. (Originally Industrial now moving Socialistically).

To hark back to Berne Conference in 1919 and its later developments. Three forms of action were suggested :—

- (a) Revival of 2nd International ;
- (b) joining 3rd ; or
- (c) starting a new one.

Eventually, after pourparlers with Moscow and Berne, a new one was formed at Hamburg in 1923 called Labour and Socialist International.

International Socialism is therefore represented by two rival organisations. One having its seat in Moscow, and calling itself Communist, and the other with its seat in London, calling itself Labour and Socialist. Each has its corresponding T. U. International—though the Red International is much more closely associated with the Communist International, than the Amsterdam T. U. International is with the Labour and Socialist International. The Communist International is, to all intents and purposes, the same as the Russian Government.

Present situation.

(1) *Communist.*

Third International formed in
Moscow, 1919. (Comintern).
|
Red International of Trade
Unions, 1921. (Profintern).

(2) *Socialist.*

Labour and Socialist International
(founded at Hamburg in 1923).
|
International Federation of Trade
Unions (Amsterdam International,
1901).

(In addition, there is the International Association of Workers (Syndicalist), being an International formed from the Red International of

T. U. 1922 ; and an International of Christian Trade Unions (Anti-Socialist) in Germany, Austria and Italy).

12. *Attitude of Great Britain towards Communism.*

In Great Britain the Labour Party (Socialist) is affiliated to the International formed at Hamburg in 1923 ; Communism (represented by the Communist party formed in 1921) is affiliated to the third (Communist) International of Moscow, 1919. Both wings, Socialist and Communist, look to the Trade Unions as their chief source of strength (numerical and financial), but the Trade Unions—formed for a different purpose—have yet to be won.

As trade unions outside Russia preferred to join Amsterdam Union, Moscow adopted policy of "unification." "The United Front." This not being accepted, their next move was to get the Russian Unions accepted at Amsterdam. The underlying reason being to work from inside and undermine the Amsterdam Union.

In the struggle the British Unions have been the advocates for the Russian Unions. The policy of penetration laid down by the Communist International has had more success among British Trade Unions than anywhere else, cf. for example, the voting at the L. P. Conference in 1924.

- (a) Admission of Communist Party to affiliation. Majority against 2,992,000.
- (b) Endorsement of Communists as Labour Candidates. Majority against 1,802,000.
- (c) Eligibility of Communists for Membership of Labour Party. Majority 264,000.

The deduction is that, Labour Party and Trades Unions are being pushed over to the left.

The attitude of Trade Union Congress in recent years is significant. Although no exact index of feeling among rank and file, owing to its peculiar organisation and practice, yet it is a reflection of the broad trend of opinion among those who sway organised labour.

Failing 'unification' or complete submission to Moscow, the policy of Russia has been one of persistent penetration. It is noticeable that Zinovieff's despondency in 1922 (after the failure of the Triple Alliance strike in England the year before) over progress in England, was succeeded in 1925 by a distinctly more optimistic tone.

Mention must also be made of the Minority Movement, started in England a year or two ago, with the object of transforming Trade Unions from purely pacific organisations into mass organisations for revolutionary activity. Among its avowed special aims was the carrying out of an intensive campaign in Navy, Army, and Air Force.

14. *The General Strike.*

A strike, properly understood, is perfectly lawful, and an essential part of the rights of a wage earner is that he should have the right to strike. A general strike is an attack on the community, and disregards contracts made or obligations undertaken by the workmen called out.

"Every workman who was bound by a contract to give notice before he left work, and who, in view of that decision, has either chosen of his own free will, or has felt compelled to come out by leaving his employment without proper notice, has broken the law. He has broken the law just as much as the coal owners would have broken the law if they had failed to give due notice to terminate the existing engagements of their men, and had attempted to turn them off on May 1st without any warning.

"The General Strike again, is an attack at the vitals of the whole community. It is not a blow by one combatant at another. It is against the State rather than in furtherance of a trade dispute, and as such is actionable. Every man who is out in disregard of his contract of employment is personally liable to be sued for damages."

15. *A reflection.*

Internal dissensions seem to be inherent in the very nature of Socialism and inseparable from it. The fact is illuminating. Nothing reveals more clearly the imperishable element of Individualism (Personality, if you like) than its marked assertion in the very movement which is nominally its negation, and intended to suppress it.

Socialists are always striving for unity, but no set of people are less successful: the more they strive, the less they succeed, because the idea of unity entertained by each opposing group is the domination of its own views. This one can see throughout the whole story. Sooner or later, every Socialist organisation divides more or less decisively into a Right and Left Group, with intermediate grades: the division has frequently developed into a complete split, with secession or expulsion on one side.

16. *The Terms "Communism" and "Socialism."*

The distinction is not between the economic ends, but between the means.

Both aim at the abolition of Capitalism and the establishment of the Co-operative Commonwealth ; but the Communists would achieve it by force, while the Socialists rely on constitutional political action.

There does not seem to be any room for compromise : but desire for unity is stronger than ever. But, if unification came, some amount of expulsion would be essential, followed by a fresh Division.

17. *Conclusions.*

One general reflection is suggested by a review of the British Labour movement in recent years.

Once a pioneer and a model for other countries, it has lost all initiative, and become an imitator and a hanger-on, tied to one foreign organisation or another.

The Labour Party has rejected Moscow, but tied itself to Hamburg.

The Trade Union Congress has fought shy of the Red International, but has surrendered itself to Amsterdam, where it plays second fiddle to Germany's lead.

Trade unions have served a great purpose, but are now absorbed in political activities, and exploited for political purposes rather than as media for betterment of wages and conditions generally.

In considering any action for the avoidance of economic crises and for a return to the industrial rather than the political trend in Trade Unions, drastic action is to be deprecated. We have only to recall history to remember the reactions that occurred after the Taff Vale Case and the Osborne Judgment. Labour is in the majority at the polls — any drastic legislation, even if possible, would be met by united Labour action in the future. We must also remember that the extremists are numerically few but active ; the vast majority of Trade Unionists are law-abiding and constitutional, but apathetic, often through fear. Terrorism is a very great thing.

The concern of the future is for the leaders. Varying in shades from pale pink to deep crimson, their attitude differs immensely as they are ' in ' or ' out ' of office ; in many cases one is reminded of Mr. Facing Bothways. The question always will be :—Will they lead or will they follow ?

As Mr. Baldwin said at Chippenham:—

“The temptations that the growth of these vast organisations, in many respects as they were to-day outside the law, controlling multitudes of men and large sums of money—the temptations to set such a machine in motion and make people follow it, was great indeed.”

Education is a powerful factor for good. A realisation by all concerned that there are two sides to a case and that the other side is not all bad. Liaison and co-operation do away with hereditary distrust. The lines on which legislation may move could perhaps be—

- (a) Abolition of right to levy a political tax on all working men regardless of their political opinions.
- (b) Curtailment of the powers conferred by “peaceful picketing.”
- (c) The introduction of some form of vote or secret ballot which will give a true reflex of the general opinion. The present system of card-vote is a farce.
- (d) Legal Liability of Trade Unions—as of other corporations—for wrongful acts

and finally

- (e) The rigorous suppression of agitation and street corner orators.

The Right of Free speech does not exist for those who endeavour to upset the ordered state of things by word or deed. The argument that to suppress such agitators makes them into martyrs is fallacious. At present, the law-abiding man who suffers from the results of the agitators' excessive license is the martyr. The right of the peaceful general public to protection from frequent and extended interruptions of the normal state of civic tranquillity is one which needs greater recognition.

“It seems very generally forgotten that, if all are to have liberty, the liberty of each one must be limited to the extent of preventing him from interfering with the liberty of others.”



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MILITARY NOTES.

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GERMANY.

Construction of new Zeppelin airship.

The *Deutsche Tageszeitung* of 15th June, 1926, published an article on the subject of the construction of the new Zeppelin airship, for which funds are now being collected by public appeal in this country.

The specifications of this new ship are said to be as follows :—

Designation.—"L. Z. 127." (The German designation of the last airship to be constructed, the "Los Angeles," was "L. Z. 126.")

Cubic capacity.—105,000 cubic metres. ("Los Angeles" 70,000 cubic metres.)

Motors.—Five 420 horse-power Maybach engines.

Probable date of completion. Autumn, 1927. (Doubtful).

Employment.—Experiments with a view to the establishment of a trans-Atlantic commercial air line.

The most important innovation introduced in this airship is the fuel. It is reported that Dr. Lempertz, the chief chemist of the Zeppelin Company, has discovered a gas which not only entirely replaces petrol as a fuel, but is also in many ways superior to it. It is further stated that practical experiments with this gas, which has approximately the same specific gravity as air, have been made with Maybach engines, and have led to very satisfactory results. The only mechanical alteration necessary to adapt engines to its employment is said to be a slight modification of the carburettor. The gas is reported to develop 25 per cent. more calories per cubic metre than 1 kilogramme of petrol. A further advantage lies in the fact that it can only be exploded in small volumes.

Its light weight enables large quantities of this fuel to be carried in special gas cells, and it is stated that the gas will not be any more expensive than petrol.

Plans for new "trans-oceanic aeroplane."

The German Press reported a lecture delivered by Dr. G. Rumpler, the well-known aircraft constructor, at a meeting of the German

Scientific Society for Aeronautics (Wissenschaftliche Gesellschaft für Luftfahrt), which assembled at Dusseldorf during June. The theme of Dr. Rumpler's lecture was "the trans-oceanic aeroplane." Dr. Rumpler stated that he himself had got out the plans for a new heavier-than-air machine for traffic to South America. The chief problem in the past had been the distribution of weight in such craft. Hitherto the weight had been placed centrally, *i. e.*, immediately under the wings, with the result that, as machines increased in size, the weight-carrying capacity was relatively reduced owing to the increased strain on the wings. His draft plans for the new machine foresaw a different distribution of weight which would tend to equalise the strain through the wings.

The machine was to be propelled by ten motors, and was to be furnished with six floats equally distributed. It would be able to fly 4,000 kilometres (2,500 miles) without intermediate landings, and would carry 130 passengers with luggage, in addition to a crew of 25 men. Its maximum speed would be 270 kilometres per hour. The large number of motors would materially add the margin of safety. In Rumpler's opinion, the difficulties of construction of such a craft would not be excessive.

The War of the Future and Motorisation.

The following is a precis of an article which appeared in "Wissen und Whre," Volume V, 1926. While consisting mainly of ideas which have been the subject of general discussion during recent years, the article does bring out certain novel points, but its chief interest lies in the fact that the publication in which it appeared is considered to be the most profound and academic military periodical in Germany.

Introduction.—The writer quotes the final works of Napoleon's orders for the operations against Regensburg, "*activité, activité, vitesse.*" Rapidity of movement has in past wars depended almost exclusively on the marching capacity of men and horses. The World War first demonstrated the value of the motor vehicle in the air, on land and on sea, but motorisation was not developed far enough to enable full use to be made of its possibilities.

The World War.—The World War began by the assembly (*Aufmarsch*) of troops on the frontier by railway, screened by frontier guards. This assembly took place according to a definite plan worked out in

peace. Strategic reconnaissance was carried out by army cavalry (Heereskavallerie) assisted by almost negligible quantities of aircraft. The pace of all operations was set by the infantry. Supply was carried out by rail and horse transport, assisted, to an increasing degree as the war proceeded, by mechanical road transport.

At the end of 1914, for the first time in history, the French employed mechanical transport for the movement of troops (Paris taxis). In the further course of the war, army cavalry became increasingly unimportant, its functions performed being largely by aircraft. The employment of mechanical transport road vehicles for troops and supply, although generally recognised, was not developed to any large degree, chiefly owing to shortage of vehicles and their dependence on good roads. Guns on motor mountings and aircraft gradually began to take an active part in the fighting. Dirigibles were first employed owing to their large cruising radius, and then discarded owing to their vulnerability. About the middle of the war, the tank, a first-class offensive weapon and a technical masterpiece, was evolved.

Although the world war thus provided many effective precedents for motorisation, operations and tactics remained essentially dependent on the marching speed of man and horse.

The War of the future.—Just as after the war of 1870-71, general attention was directed to the extension of railway systems, the post-World-War period has been devoted to the study of mechanical vehicle in the air, on land and on sea. A war to-day between two well equipped states would include, in addition to the deployment of strong aerial forces, the transport of a large part of the artillery, the majority of specialist troops and of supplies by means of mechanical transport.

Developments Continue.—There will soon be motor-lorries capable of travelling across any country which is passable to horsed vehicles. The time will come when the mechanical vehicle will be superior to the horsed vehicle in cross-country work. Road construction in all states will be adapted to the mechanical transport vehicle and the problem of fuel supply for a war will be solved. There is no doubt that such developments will, in time, reach a point, where it will be possible to transport, by mechanical methods, the entire fighting forces to the battle area. This development will, however, take time and it will cost money for any state completely to motorise its present army. There is no doubt, however, that present developments tend in this direction.

The ensuing observations are, therefore, only applicable to a period some decades hence when technical problems have so far been solved as to enable armies to be moved mechanically on a large scale.

The Troops of the War of the Future.—There will be no more army cavalry. Strategic reconnaissance will be performed by aircraft. Fighting tasks hitherto performed by army cavalry will be undertaken by fast tanks and armoured cars, accompanied by infantry on bicycles and silent motor-bicycles. The entire strength of each division, including ammunition and supply columns will be carried to the point of deployment by mechanical transport. Infantry battalions, artillery batteries, &c., will be simultaneously self-contained mechanical transport units. Horses will only be employed for divisional cavalry squadrons (mounted orderlies), for senior officers and for staffs and will, as a rule, also be carried to the point of deployment in mechanical transport vehicles. Man-carrying and divisional supply vehicles will not be restricted to roads, but will be able to move across country. Larger formations (corps and army) will, in addition to the normal corps and army troops (also motorised) dispose of special tank formations, gas troops and numerous road and railway construction units.

On the lines of communication, railways will be used as far forward as possible. From rail-head, motor lorries will be used.

March depths of fighting units will remain much the same, but the marching speed will be approximately trebled.

Gas will be a particularly important weapon and will be dropped from aircraft, fired by artillery and trench mortars and employed by special gas troops in concentrated form for the "flooding" of sections of country.

Mountain warfare will still, to a large extent, be dependent on the pack animal. In such warfare, aircraft will be of particular value, as a means of communication and a method of transport of both men and material.

Course of the War of the Future.—The world war has shown that modern war is not restricted to the annihilation of the enemy army. The entire people, the economic system and all sources of power are involved. The victory is won by the nation which first breaks the "will to war" (Kriegswille) of the enemy people. The war of the future will probably begin without a declaration of war, with the invasion of enemy territory by strong air forces, which will execute

bombing attacks on important traffic centres and on military and economic sources of supply and power.

Mobilisation and assembly (Aufmarsch) by rail and mechanical transport will be completed in a shorter time than heretofore and will not only be covered by Frontier guards but also by a screen of aircraft. In the case of the stronger power, assembly will immediately merge into invasion, since the repulse of the enemy and the thrusting back of his aerodromes will be the best guarantee against attack from the air. The speed of operations will depend on the efficiency of the mechanical transport at disposal. The weaker belligerent will be able, by carefully systematised devastation and by "flooding" definite areas with gas ("Gas swamps" (Gas Sümpfe)) to create more favourable conditions for his operations by restricting his opponent to certain definite lines of advance. The tactics of the defender will then consist of rearguard actions preceded by a series of surprise concentrations at various points along the line of battle. The attacker, on the other hand, will push forward with the utmost speed and will employ his aircraft to the greatest possible extent over the enemy hinterland.

If the enemy army is kept in retreat and if the major portion of unoccupied enemy territory is exposed to aerial attack by superior forces, surrender will soon follow, unless assistance is speedily forthcoming from a strong ally. If such assistance is forthcoming, a further phase of the conflict between motor and motor will set in. Submarines and aircraft will attack enemy sea transports and aircraft will continually harry transport by land.

***Influence of Motorisation on Operations.*—Aircraft, of all mechanical vehicles, exercises the greatest influence on the conduct of war. This influence is not only due to the large radius of action but is chiefly to be attributed to the quality of the aeroplane as an armed carrier of news and men, and as a fighting weapon. Aircraft can achieve artillery effect over distances of hundreds of kilometres and therefore functions as the "long-range gun" of the higher command, with the added advantage contained in the fact that his projectile is directed by human intelligence to within a very short distance of the target. Dirigibles are, owing to their vulnerability, useless in land warfare, but will probably still be used at sea where great distances are to be covered. It is entirely possible that the vulnerability of dirigibles may be reduced by filling them with non-inflammable gas and by equipping them with protective aeroplanes for defensive purposes.**

At the beginning of the war, towns in the territory of belligerents will be particularly subjected to air attacks. All instructions directly responsible for the maintenance and supply of military and economic power should be immediately withdrawn into the interior, and "deployed" over large areas in order to reduce the size of targets for enemy aircraft. Gas protection for the home population is just as necessary as it is for the army and will become more and more necessary as the difference between "front" and "home" decreases.

The enormous demand for mechanical transport vehicles on the outbreak of war will have to be covered to a certain extent from civilian sources. For this purpose, in peace, mechanical transport firms will have to be encouraged and, if necessary, subsidised to produce types easily adaptable for military purposes. The same principle will apply to aircraft and commercial shipping.

Permanent fortifications.—As time goes on, permanent fortifications will become less and less effective and will probably be replaced by "gas swamps," which will have the great advantage of being easily and quickly laid in areas hitherto unsuspected by the enemy.

Mobilization.—Mobilization will be facilitated by the employment of large quantities of mechanical transport. Air attacks on large garrisons will make it essential to employ, as mobilization centres, a large number of small and remote locations, which have hitherto been unoccupied by troops.

Mobilization of aircraft and anti-aircraft troops must be carried out with the utmost despatch and be complete within a few hours of the ordering of the general mobilization, and will best be centrally directed.

The opinion that future wars will be decided by aircraft alone is, however, wrong. Complete command of the air is, in view of the space to be covered, impossible.

Assembly (Aufmarsch).—Assembly of mobilized forces will, in the future, like mobilization, be peculiarly susceptible to attacks from the air. All efforts will be made to shorten the period necessary for the assembly, which cannot be done away with and which, therefore, remains, an unfortunate but necessary evil. Nevertheless, the three hitherto entirely separate phases—i. e., mobilization, assembly and

advance will, in the future, overlap to an increasing degree. Assembly is no longer the monopoly of the railways, and large portions of the motorised army will reach it rendezvous under its own power. This is all the more necessary in view of the fact that the railway, especially in frontier areas, is no longer a certain method of transport, since all main stations, junctions, etc., will afford excellent targets for enemy aircraft. This disburdening of the railway will give the authorities a freerhand to dispose of it for other purposes, and will make the assembly a much more elastic process than it has been hitherto, when the slightest mistake or weakness in railway organization could do an immense amount of harm to the plans of the higher command. In this connection, the electrification of the railways has little military value, as power stations will be subjected to attacks from the air, as will be connecting lines between these stations and the railway itself.

Mobility and elasticity of assembly will further enable raids and local attacks to be executed with the object of upsetting the enemy's assembly. Aerodromes will be pushed forward in order to increase the depth of air attacks on enemy territory. This measure may, of course, compel the assembly to take place further in rear of the frontiers than has hitherto been the case. This disadvantage will, however, be more than compensated for by the mobility of the land forces.

Moltke's dictum that "a mistake in the original assembly of the army can scarcely be made good in the course of the whole or rest of the campaign" will lose a great deal of its strength. Modern obstructions, such as deliberately devastated areas, floods and "gas swamps" will, in a great many cases, only become known to the other side in the course of the assembly itself and may, therefore, lead to sudden changes in the organisation of this process and in the plan of operations. Such changes will be more and more easily carried out as mobility increases. Until the first collision with the enemy, Moltke reckoned on the assembly taking place according to plan, and only admitted the employment of a "system of improvisations" after it had been completed. In future, wars the system of improvisations will be employed from the beginning of the assembly.

In short, the mechanicalisation of movement of troops will not, as many believe, bring about a mechanicalisation of leadership and a preponderance of the technician, but will actually bring about the very opposite. The mobile instrument will make greater claims than

ever on the art of leadership, which only the real military artist will be able to satisfy. The influence of the leader on the course of events will be greatly increased. Telephones, telegraph, wireless, aircraft and mechanical land transport will ensure rapid communication of his orders. His task will be to double the fighting value of his troops by the fullest exploitation of their mobility.

The Advance.—The assembly will merge rapidly and almost imperceptibly into the advance. As a rule the advance will take place as far as possible by night. Divisions marching by day will be split into several march groups at large intervals and distances from one another. The breadth and depth of the strategic advance can be increased on account of increased mobility. Moltke said that "Strategy has done its best if the troops arrive on the day before the battle within a day's march of the point of contact with the enemy." This statement remains true, with the difference that, in the future, a day's march will not be 10 kilometres but 200 kilometres. Whilst, in the past, an enveloping movement had to be begun in the course of the advance, thus disclosing intentions to the enemy, increased mobility will, in the future, enable the military leader to begin his enveloping movement immediately before the battle proper.

The formation for the advance of the future will, therefore, be a broad front with strong forces in the second line behind the centre, which will involve an initial frontal contact with the enemy, from which a single or double envelopment or a break-through can be undertaken by the concentrated mobile forces of the second line. Pressure on the flanks, envelopment and encirclement (*Einkreisung*) will still be the eternal methods of destroying the enemy. The tactical break through, however, will be made more difficult in the future, since the narrow gap in the enemy line will restrict the use of mechanical transport, whilst the enemy will have a large degree of freedom in the employment of his motorised forces.

Strategic reconnaissance during the advance will be undertaken by aircraft and tactical reconnaissance by the land forces.

The Battle.—The battle will develop from the advance of one or both opponents, and it is here that the tactical effect of mechanical transport will be experienced. Two evenly matched opponents in a war of the future, will undoubtedly try to achieve a rapid decision by a sudden declaration of war and a swift delivery of the first blow.

Any attempts to evade the enemy forces (*Ausweichung*) will involve the relinquishing of too much territory, and will only be effective if performed in connection with deliberate devastation of large areas of the home country, which no state would willingly undertake except under extreme pressure.

The first battles will, therefore, probably take place in the immediate neighbourhood of the frontier. The lapse of time between the first contact and decision will probably not be shorter than in the past. This fact, together with the fact that the mobility of all forces will have been greatly increased, will enable the battle to be fought by both sides on a deeper front and will further permit the maintenance of reserves at a greater distance from the battlefield than has hitherto been practicable. As in the past, the attacking party will have the advantage over the defender inasmuch as the former will still retain the initiative. The effects of an envelopment will be greatly increased by mobility. Surprise concentrations of superior forces on the flanks of the enemy, the despatch of small detachments with guns by air to his rear and raids by armoured car detachments on his flank and rear, will probably be the most effective methods of attack. One night will be enough to move strong reserves distances of 100 kilometres and more, thus retaining the initiative. Aircraft and tanks will be employed in the battle directly as mechanical weapons. Aircraft will not be a decisive factor, but can, by feint concentrations and other methods, do much to assist the plans of the higher command.

The employment of tanks in mass was very successful during the late war. Their effect is, however, like that of aircraft, more a moral than a destructive one. The war of the future will involve the employment of tanks in large numbers, more particularly in view of the fact that gas-proof tanks will be able to pass through gas clouds and swamps with impunity. The tank will always remain a weapon of attack and will only be employed in the defence for counter-attack purposes. In the latter case, the employment of tank *versus* tank is not impossible. There is no doubt that anti-tank methods will be greatly developed and extended, and it is, therefore, probable that the attack will begin by an infantry advance supported by artillery and aircraft, and that the tank will only be employed when the infantry have reached the limit of the support of their artillery and the enemy defensive system has already been disorganized.

An undirected battle, such as was the Battle of the Marne in 1914 on the German side, is never likely to take place again.

Pursuit.—Present theory prescribes pursuit of a beaten enemy to the last gasp of man and horse. It might be thought that a motorised force would find it easier to pursue on account of its mobility. This, however, is not the case. Mobility is a greater asset to the retiring than to the pursuing force. The latter will, of course, send bombing aircraft to important points in rear of the enemy lines and will form mobile pursuit columns. Nevertheless, as long as the retreating force disposes of reserves, it will be able, by the skilful employment of its vehicles, continually to oppose the pursuer's special pursuit columns by fresh troops. The best cover for the retreat will be deliberate devastations and the preparation of other obstacles which will hold up the pursuer more and more, until finally, the superior mobility, and with it, the initiative, will once more pass into the hands of the retiring force. There is no doubt in this connection that it will be easier to fight in one's own country and that this factor can exercise a great influence on the ultimate decision. This was already shown to a certain degree by the French operations before the battle of the Marne.

From this point of view, it would appear that a war on two fronts would be made more easy in the future. Rapid shifting of troops from front to front assisted by their mobility, would give the possessor of interior lines and added advantage. This advantage, however, is more than discounted by the air factor. A war of two fronts would involve, for the country waging it, the exposure of home territory to air attacks on two sides, and preparation for such a war would therefore, involve the formation of an air force at least equal in strength to the sum total of air forces which might be employed against it. Only an air force of such strength could hope to maintain a successful offensive over enemy territory.

Guerilla Warfare.—The opinion is frequently heard that a motorised army is peculiarly sensitive to guerilla warfare. There is no doubt that raids and similar operations on a small scale can do much to impair mobility. Such raids can have an important effect on a campaign, but only as long as the raider's main army is successfully holding its own against the army of the raided.

The position is entirely altered if the raider's army has been beaten and the enemy has sufficient forces to employ, in suppressing guerilla warfare, the continuation of which then becomes impossible. The odds are too uneven. Mobile columns patrol all territory involved, aircraft, unimpeded by any serious opposition in the air, can proceed at once to any given point and the bombardment from the air of large enemy towns can be undertaken as reprisal for every guerilla operation. Armoured trains may also be employed to patrol the railways. Another factor militating against the guerilla leaders is the fact that the main war is no longer being conducted by the army and that, therefore, the civilian population is completely at the mercy of the raided army.

A rising "en masse" of the civil population after the defeat of the army, such as took place in France in 1870, will scarcely be possible in the future.

Supply.—Although mechanical transport will be of the utmost importance for the maintenance of supply, the bulk of this work will still be performed by ship and railway, which will have to cover the great distances between home areas and the area of operations. Whilst, however, in the past, operations seldom took place at distances of more than 100 kilometres from railhead, this distance will, in the future, be increased. Mechanical transport columns will carry their loads from railhead at approximately railway speed to the troops. Road construction units will prepare the way through the devastated areas and railway repair construction will be executed more rapidly than hitherto.

Naval Warfare.—The battleship, which was already threatened during the late war by the submarine, has now new and dangerous enemies in airship and aeroplane. Increase of speed, the construction of bomb-proof shipping and the equipment of large ships as aircraft carriers will be employed as counter-measures. Operations at sea will, in the future, like operations on land, be of necessity undertaken in close co-operation with the air fleet.

Conclusion.—The foregoing remarks only apply to a war between two approximately equal opponents. It is unnecessary to point out that a country which is not in a position to adapt its army to technical developments cannot alone conduct a successful war against an army equipped with modern weapons. On the other hand, technique and

material should not be over-estimated in war. The art of war is subjected to never-changing laws, one of the most important of which is that the moral of the army, its discipline and patriotism, its readiness for sacrifice and its will to fight, form the foundation of victory. The finest technique in the world will not be able to alter the fact that it is the human being who serves the machine in war, and that the machine can only produce its highest performance at the command of the will and moral of the human being.

In the motorised army of the future the most important motor will be the spirit and heart of the human being. On the other hand, nothing more rapidly destroys the value of troops than their employment inadequately armed against a heavily armed opponent.

CORRESPONDENCE.

Position of Artillery on the Line of March.

SIR,

Can you enlighten me on the following small point which always puzzles me :—

Why, on the line of march when close to the enemy, is it desirable that the guns of a small force should be sandwiched into the middle of the infantry ? *e. g.*—

(i) *Main Guard*.—1 Company, 1 Battery—Remaining 2 companies.

(ii) *Main Body*.—1 Battn., 1 Bde., R. A.—Remaining 2 Battns.

In other words, what is the objection to the guns leading the Column ?

I can only think of two logical reasons :—

(i) That that is the exact order in which it is expected that the units will become engaged.

But surely, what generally happens is that the various units get busy practically simultaneously.

(ii) That the split infantry is put in front of them in order to protect them.

A single consideration seems to rule this out : If the Headquarters Staff who head the Column do not require special protection still less will the gunners.

On the other hand what are the advantages of putting the guns at the very head ?

(i) The Battery Staff can get forward quickly and easily.

(ii) The Artillery Commander, before contact is obtained will be naturally placed so as to be in direct touch with the Force Commander, and also with his guns.

(iii) Having got forward he will be more easily able to signal back to his guns, than if they were in the middle of the Column.

(iv) The unpleasantness of marching closed up in the middle of an infantry column is avoided.

(v) Passing and re-passing of mounted men, will be spared to the infantry.

The above remarks apply of course only to small forces. There should be some good reasons other than the two I have suggested, and I appeal to you, Sir, for them. But when you have given them the

question will still have to be faced. Do they more than compensate for the five above mentioned disadvantages ?

If you can throw light on this point, you will be easing the mind of,

a P. B. G.

(It is certainly the usual custom when a column on the march is in close touch with the enemy that artillery should be preceded by some infantry both in the Advanced Guard and the Main Body.

The reason of this is not only for ordinary purposes of protection but, in the case of the Main Body, as suggested by you, in order that the troops should be placed in the column in the order in which they are most likely to come into action.

The R. A. of the Main Body may be able to come into action off the road without moving forward, if the Advance Guard is held up and wants extra assistance, but part of the infantry of the Main Body would almost certainly be required to move forward some distance, either along the road or to a flank. The leading battalion would be seriously delayed if it had the whole of 1 Bde., R. A. (less 1 Bty.) in front of it.

There is no reason, however, why the R. A. Bde. Comdr. and battery staffs should not be well forward.

The R. A. Bde. Comdr. would probably be with the Infantry Bde. Comdr. at the head of the Main Guard and the battery staffs at the R. A. Bde. Headquarters or even further forward.—Editor.)

SIR,

The instruction of officers in military law presents much *Courts Martial* difficulty, and a proposal is put forward, which if it were adopted, it is believed might not only facilitate such instruction but also the accurate dispensation of justice by Courts-Martial.

A Judge Advocate must be appointed at every General Court Martial and may be appointed at any District Court-Martial. It is suggested that every officer on the staff college list should be given opportunities of acting as Judge Advocate. For an officer's first occasion, a simple D. C. M. would be selected, which would present no particular difficulty. It would provide initial experience and breed confidence, at the same time relieving the president of the labour of keeping the proceedings.

When an officer had successfully carried out the duties of Judge Advocate at two or three simple trials, he would be appointed to increasingly difficult cases ; and as his knowledge grew, his value as a referee and his experience would come to be much appreciated by the officers composing the court.

An officer trained in this way would acquire a practical knowledge of military law which would stand him in good stead throughout his service, and more especially when sitting for promotion or staff college examinations. Further, he would be available to officiate as Judge Advocate at a general court-martial when, for any reason, one was not furnished from the Judge Advocate General's Department.

This proposal has the merit of causing no expense to Government.

I am, Sir,

Your obedient servant,

H. BULLOCK, CAPTAIN, I.A.

REVIEWS.

THE NAVAL HISTORY OF THE WORLD.

By THOMAS G. FROTHINGHAM, CAPTAIN, U. S. R.

(*Cambridge Harvard University Press*, 1925, and *London ; Humphrey Milford, Oxford University Press*, 18s. each.

Two volumes have been received, one entitled "Offensive Operations, 1914-15," the second, "The Stress of Sea Power, 1915-16." A third volume, not yet received is to deal with "an entirely different phase of the war" inaugurated by the entry of the U. S. A.

Captain Frothingham's work answers a military requirement in furnishing a supplement, reasonably free from tactical detail, to the study of land strategy, for a general strategical review of the Great War.

The argument of the two volumes under review may be summarised as follows :—

The German failure was fundamentally due to the fact that at the outset, all effort was concentrated on a "dry-land" plan of war, the Schlieffen plan. Consequently, the Germans had neglected to develop naval possibilities for harrassing tactics in their preparations for offensive warfare, and "must be considered self-convicted of not using all possible means to carry out the German strategy." There was no interference with the passage of the British Expeditionary Force and no co-operation between the German Army and Navy with the object of seizing the Channel Ports. The German military dry-land offensive therefore collapsed on the Marne.

For the British failure, namely, to dominate completely at an early stage the naval activities of the Germans and to render their submarine warfare impracticable, a number of reasons are given :

(a). "British naval policy had been dominated by a school which placed material above the study of war," with the result that the British Navy was inferior in direction and methods to the German Navy.

(b). The fear of invasion tied a number of vessels and troops to the British Isles long after the grounds for such fear existed, with the result that superior forces were not always brought to bear at the right

time and place, *e. g.*, Coronel ; France up to the counter strokes against the German Offensive in 1918.

(c). The correct objective were not selected at the outset.

According to Captain Frothingham these should have included control of the Dardanelles and the Baltic. From lack of this, Russia was shut off from the Entente Allies and dropped out of the war in revolution due to exhaustion which might have been relieved by supplies from her Allies. "These two points (the Dardanelles and the Baltic) were the logical main objectives of the Entente Allies to complete their control of the seas, and these two objectives should have been the aim of their naval strategy." The entry of Turkey into the war and the failure to force the Dardanelles were far greater catastrophes to the Allies than the disaster at Coronel.

Again in the areas of the great seas and the Mediterranean seeking out the enemy's main forces was not made the main object. Covering the trade routes was a necessary work, but German cruisers remained "footloose" for longer than they should have been allowed and did more harm than was to be expected.

(d). British methods were characterised by over-caution. Submarine attacks were avoided rather than countered. The result was the delaying deployment at Jutland and failure to close with the German High Seas Fleet.

The most interesting part of the argument is developed in the account of the Battle of Jutland and its results. The story is prefaced by an outline of the prevailing strategical policy of both sides. To the Germans is ascribed a new strategy of bombarding selected ports on the East Coast of England with the object of luring some portion of the British Grand Fleet into a position in which it might be defeated by the High Seas Fleet. This offensive naval policy was part of the general offensive programme of the Central Powers for 1916, of which Verdun was the military part. The British are represented as being dominated by a defensive naval policy of which the main principle was to decline to allow the Grand Fleet to be drawn after the hostile retiring fleet in an invited direction, by reason of the danger of a mine or submarine trap.

One of the German sallies brought on the Battle of Jutland. Captain Frothingham assigns victory to neither side. The British Fleet, operated with the pre-conceived caution embodied in the above

policy, failed to close with the inferior German Fleet and destroy it. The Germans failed in their object of destroying a detached portion of the British Fleet. The results were as follows—

The British remained in control of the traffic through the North Sea and “the Germans were barred from the waterways of the world.”

The Germans still kept control of the Baltic and all that it implied. “The German strangle-hold upon Russia remained unbroken, and it was impossible to get supplies through the Baltic to the Russians to avert the exhaustion that was leading to collapse and revolution.” Supplies, particularly ores, which reached Germany through the Baltic, helped to maintain her fighting strength. Furthermore, failure to destroy the German Fleet resulted in the latter maintaining an outpost area for the protection of the gates and bases of the U-boats, without which the submarine campaign would have been impracticable. Finally, the fillip given to German morale, and the heightened prestige of the German Navy enabled the German naval leaders to induce the Government to adopt unrestricted U-boat warfare; but the method in which this was conducted, owing to a characteristically faulty German appreciation of the situation, brought the U. S. A. into the war.

Although the greater of Captain Frothingham’s adverse criticism is directed against the British, there is little doubt that he has tried to be impartial. He rarely criticises persons, and is not patently influenced by sympathy for the weaker side. His object has been to deduce lessons of professional value, and he has been led to an impression that on the whole German methods were better, and German efficiency higher, than British.

His main indictment of British policy and methods is on the ground of over-caution. For instance, the vacillations which delayed the establishment of an effective blockade might, he says, have been avoided, had the lessons of the American Civil War been appreciated. This is an interesting commentary by an American professional man on the attitude adopted by his country when we first applied the blockade.

He contrasts the pernicious effect of the fear of invasion on our naval and military strategy for Home Defence with the early realisation by the Germans of the improbability of a British attack in the Baltic. On the military side, there is much force in this criticism,

but without knowledge of the detailed reasons which underlay our policy of Home Defence, such criticism smacks of wisdom after the event. At any rate the British problem was far more complicated than the German.

Captain Frothingham's criticism of the British so-called defensive naval policy opens up a big question. He attributes Admiral Jellicoe's failure to close with the German Fleet at Jutland directly to this, and quotes as one reason for its adoption a statement by Admiral Jellicoe to the effect that there was no reserve behind the Grand Fleet, and therefore to expose it to the risks of a mine or submarine trap, or to torpedoes, must be regarded as prohibitive. According to our author the fallacy of this lay in the fact that outside the Grand Fleet there was a large number of British pre-dreadnought battleships, the French, the Russian, and the Italian Fleets, whereas "there was practically nothing in the German Navy but the High Seas Fleet, and the Austrian Fleet was contained by the Italian Fleet."

In spite of Nelson's saying: "If I had been censured every time I have run my Ship, or Fleets under my command, into great danger, I should long ago have been *out* of the Service, and never *in* the House of Peer," it is difficult to form a judgment on the question of risks after the event. Now that we can clearly see the tragic results, the collapse of Russia, and the ravages of the submarine *guerre de course*, it is easy to say that to accept the risks would have been justifiable. But, it was impossible for an inflexible and highly centralized system of command to adapt to the actual conditions of the battle a pre-conceived plan of action, which was based on a policy in which the security of the Grand Fleet was the prime consideration. The existence of the Grand Fleet was considered essential for the maintenance of the control of the seas, and that control was far more vital to the Entente Allies with its numerous fronts directly and entirely dependent on sea power than it was for the Central Powers for whom no front was so dependent. Captain Frothingham has himself stressed the value of this control to the Entente, in fact the following passage shows that he regards it as the paramount influence in the war. "The reader must constantly keep in mind the vast extent of this traffic overseas, which was constantly bringing from all parts of the world maintenance for the cause of the Entente Allies in the World War. Often this was lost to sight in the excitement over conspicuous incidents in the fighting. But, more important than the petty fluctuations of battles, the

gains of ridges or hills, were the streams of men and supplies which were coming to the Allies over the seas. As a result, Sea Power was influencing the war on a scale that was never dreamt of before."

This, almost contemptuous reference to military operations was hardly necessary for our author to make his point, but from the following passage also one may suspect that Captain Frothingham holds that our military leadership was of no high order: "These long succession of unco-ordinated piecemeal attacks upon intrenchments, which have been called the Battle of the Somme (July-November, 1916) actually consumed the British armies as fast as they were poured into the trenches. And, when these attempts ended in exhaustion, nothing had been accomplished toward breaking the German armies on the Western Front."

For a student of military as well as naval strategy (Captain Frothingham has published "A Guide to the Military History of the World War") such a judgment is, to the say the least, superficial and uninformed.

Nevertheless, here is a work, which, from the topics with which it deals, forms a useful modern supplement to the masterpiece of another American naval historian, Admiral Mahan's "The Influence of Sea Power on History," and it may, with advantage, be added to the bibliography of students for and at the Staff Colleges.

THE EMPIRE AT WAR (VOL. V),

By

SIR CHARLES LUCAS, K. C. B., K. C. M. G.

(*Oxford University Press, London, 1926, £ 1-5-0.*)

This volume describes inconsiderable detail the parts played by the Mediterranean Colonies, Egypt and Palestine, India, Ceylon, Malaya and China in the Great War. It gives statistics both of the output of effort in men, money and material, and of the effect of the war on their communities. Each part is written up by an author who evidently knows his subject and has taken a personal interest in the country he describes.

The Chapters dealing with India will, of course, appeal most to readers of the U. S. Journal, especially as they go very thoroughly into the parts played by the various Expeditionary Forces that were despatched by India to the many war zones. The internal situation both before and after the war is also dealt with skilfully and sympathetically.

If one may criticise such an excellent and useful record there is a certain amount of duplication in that the Palestine Campaigns are described twice over, by different authors as part of the rôles of Egypt and India, respectively. These accounts might have been combined into one account of the campaigns.

The volume is well produced with adequate maps, portraits and photographs and is a thoroughly readable and instructive publication.

" A SCIENCE OF INFANTRY TACTICS SIMPLIFIED."

By

CAPTAIN B. H. LIDDELL HART.

Messrs. William Clowes and Sons, Ltd., London, 1926, 5s., 8d.

There is little doubt that the author supplied a long-felt want when, after his lectures to the Royal United Service Institution in 1920, he published the first edition of his book " Science of Infantry Tactics Simplified." The author's apologia for the issue of the third revised edition is the appearance of " Infantry Training," 1926 and the fact that " though practically all the tactical methods and ideas are now adopted in the official manual " the book under review " is built up on a connected framework of principles instead of being broken up into the compartments to which custom compels the official manual to adhere." From the fact that there should be a demand for a reprint six years after the author's lectures, it is evident that the previous editions were found to be of no mean value.

As the author claims, the book is an attempt to build a Science of Infantry Tactics upon the foundational principles which govern all fighting and in the writer's opinion he has succeeded.

The first three chapters comprising Part I deal with the need for a framework of principles, deductions from the simplest form of combat, *i. e.*, between two individuals, and the application to battle of the governing principles of these deductions.

In Part II, the author describes the new characteristics of the Infantry fight—the liberty of action which permits a unit commander to regard his unit not as a “fixed segment of the battle machine” but as an “independent moving part—a miniature replica of the whole, fighting its own small battle.”

In the subsequent chapters the author deals with attack and defence and uses the framework of principles, referred to in Part I, to illustrate the solution of general problems of attack and defence.

Diagrams and plates showing artillery and other formations and illustrating methods of attack and distributions for defence are incorporated and will undoubtedly prove of value.

Finally, in an appendix, a system is drawn up for teaching the elements of tactics.

To officers and N.-C. O.'s who find (in the words of General Sir Ivor Maxse who contributed a foreword) that the enunciation of general principles in text books does not quite satisfy their appetite for tactical literature, this book will be of considerable assistance.

AIRCRAFT AND COMMERCE IN WAR.

By

J. M. SPAIGHT.

(*Messrs. Longmans, Green and Co., Ltd., London, 1926, 6s.*)

Any book from the pen of Mr. J. M. Spaight on the subject of the rules of warfare, and especially air warfare, is worthy of careful study and his opinions of respect since he has a vast store of knowledge and information on which to base his contentions. The present book, which is a sort of corollary to *Air Power and War Rights* which was recently reviewed in this Journal, is an attempt to visualise the effect of an enemy's aircraft against our sea communications; to visualise the effect of our own air forces in assisting the Navy in its rôle of commerce

protector and destroyer. Mr. Spaight justifies the writing of this book, although indeed no such justification is necessary, on the fact that the Economic War as opposed to the purely military war, is becoming of ever greater importance and that in the last war in fact it may almost have been said to be the dominating factor in the end, since it was the blockade that ultimately caused the collapse of Germany and the Central Powers. With this contention nobody can disagree. The author goes on to point out that while in the past the Navy has been the weapon with which to enforce this economic war, in future the air force will co-operate or even act on its own and that another factor of unknown strength is added to an already complicated problem. In this book, suggestions are put forward as to how the new situation may be dealt with on sound lines.

It is very evident that the advent of aircraft will greatly strengthen the hand of the Navy in conducting a blockade against the enemy's ports, and shipping and also against neutral shipping by virtue of the speed and range of vision they possess, far in excess of that of surface craft. In these advantages the author sees the germs of frequent trouble since aircraft will, in virtue of their peculiar characteristics and their impotence to take any measures to save the crews of any vessels they may destroy; be obliged to strike swiftly and depart. The author warns us to beware of again being surprised as we were by the submarine in the last war and unfortunately, this warning is only too well needed; he takes on the whole, however, the cautious view and supports this with quotations from the Morrow committee held in 1925 in the United States to consider the whole question aircraft in war and their capabilities. One is inclined to the view that the Morrow committee's opinion should be taken with "a pinch of salt," since the prejudices of the senior officers of the two older services in the United States are notorious. The potentialities of aircraft are enormous and without, in any way, taking an alarmist view it must be recognised that in the hand of a determined and unscrupulous foe their destructive possibilities are almost unlimited.

The author in seeking for a solution of the problem which he has set draws largely on naval precedent, as indeed he must, but I was surprised to see that he is apparently unaware of the extent to which aircraft were used for convoy work during the war. He suggests that in future, aircraft carriers may accompany all convoys; if such

convoys are liable to attack by aircraft this may well be true, but we must not lose sight of the fact that at present, an aircraft carrier is very vulnerable to attack by surface craft and will usually require protection itself; it is also peculiarly susceptible to attack by aircraft and one well aimed bomb may destroy the flying deck and render the carrier useless. The answer would seem to be the provision of heavily armed flying boats or seaplanes having a long radius of *action* and a fair turn of speed.

The answer to the problems raised by the use of aircraft for commerce destruction and blockade purposes lies, so the author thinks, in an enlargement and perfectment of the agreements made during the war between Great Britain and neutrals in regard to guaranteeing cargoes before they sail. He very rightly points out that once a cargo has sailed it is quite likely to be able to evade the blockade, especially if consigned to a neutral country, and that if it fails to get through and is sunk or captured diplomatic troubles may be the outcome. He points out that for any blockade to be effective control of neutral shipping that may in any way be concerned with the enemy is essential and that if amicable relations are to be maintained with neutrals the only way will be to get them to guarantee all shipments as being for home consumption. A study of the difficulties which we had with America and other neutral countries in the last war is quite sufficient justification for the author's contentions.

He suggests that this solution will be the only practicable one in the future when we are dealing with a navy assisted by an air force which will make the blockade far more effective and can also make it far more destructive if it so desires. One must agree that this solution is the ideal and as such one is forced to the conclusion that it will be the most difficult of attainment. The author himself admits that it was Germany herself, who by her action in declaring an unrestricted submarine campaign, strengthened our hand and made possible all the restrictions which we imposed on neutrals. Furthermore, it is patent that no neutral country is going to sacrifice a considerable and very lucrative part of her trade unless she is quite sure that the belligerent concerned is capable of forcing her to do so. During the war, Great Britain possessed the largest and strongest Navy in the world; this statement is unfortunately not true to-day: Great Britain does not possess either the largest and strongest Air Force and she is,

therefore, not militarily in so good a position as she was. We have still to deal with human nature and the doctrine of might is right and we have no guarantee that we shall not again be faced with unrestricted warfare ten times more terrible than that experienced in the last war; warfare that will hit directly and not indirectly at the whole population. The answer, as the author is fain to point out, is to be strong in the armed forces of the crown: it is quite certain that unless this is so the author's solution, however desirable, will not be practicable.

ALL THE WORLD'S AIRCRAFT.

By

C. G. GREY.

(*Messrs. Sampson Low, London, 1926, £ 2-2-0.*)

All the world's aircraft, which is edited by C. G. Grey and is the 1926 edition of the well-known series founded by Fred T. Jane, maintains the high level and interest of its predecessors. The editor is to be most heartily congratulated in fact, on the mass of data that he has managed to accumulate and the profusion of photographs which are such a valuable feature of the work.

The editor has divided his work into four parts. The first is an historical section showing the progress of aeronautics throughout the world; the next part deals with the world's aeroplanes and seaplanes; the third with the world's aero engines and the last with airships. The first section is of especial interest, and it is difficult to find a single country which is not mentioned in connection with aviation and that do not possess aircraft of one sort or another; it is particularly pleasing to note the strides that have been made by the Colonies, especially Australia, with her really remarkable record for civil aviation. At the end of this section is given a very useful table of the world's air transport services which show the excellent total of 109, of which Germany has the Lion's Share, 41 in all: rather remarkable figures.

Some useful tables are included giving the principal world's records, five out of seven of which are held by France and the remaining two by the United States of America. The section dealing with aeroplanes and seaplanes is very fully and amply illustrated. Details, when known, are given of the performances and specification of all aircraft and

furnish, therefore, a really complete and valuable record for each country. A short paragraph is also included, giving a history of each firm of aeronautical engineers. Aero engines occupy a small space, probably because manufacturers and countries are inclined to be secretive about their production and performance: however, the sections dealing with Great Britain, Germany, Italy and America are fairly ample.

The controversial Airship ends the book and the smallness of the section is a pungent comment on the latter development since the war, due partly to lack of faith and partly to lack of money.

France, Italy, the United States of America and Great Britain, are, in fact, the only countries who possess actually, airships at present. However, for commercial purposes it is probable that the big airship will one day come into its own.

The book is not only of very great value as a book of reference, but is of considerable interest to all connected with flying in any way whether commercial or military.

THE AMERICAN TASK IN PERSIA.

By

A. C. MILLSPAUGH (Administrator-General of the Finances of Persia).

(*Messrs. T. Wrener Laurie, Ltd.* 15*sh.*).

In view of Persia's geographical position in relation to India and Iraq, current events in Persia are always of great interest to the military student, and for this reason alone, Dr. Millspaugh's book is well worth reading.

The book contains an interesting account of the experiences of the American Mission from 1922 to 1925 in their attempt to place the finances of the country on a sound footing. When one realises that these Americans undertook their task with no previous experience of the Middle East, of Oriental character, and of Eastern modes of life, they are to be congratulated in avoiding most of the many pitfalls into which they might have fallen. The lack of previous oriental experience has been, however, a considerable handicap to them in their work, and the chapter by the author on Persian psychology brings this point out and shows him to be a keen observer of the characteristics of the people amongst whom he is now working.

Though we know that expenditure on the Army forms a large item in the Persian budget, the author gives us no information as to how army expenditure is controlled, or what form of organisation exists to ensure that money allotted is expended to the best possible advantage.

The chapter of Agriculture, Transportation and Commerce is of special interest in describing the trade routes of the country and their possible development. The economic future of Persia is largely dependent on her ability to improve communications by road, rail, and air. The ideal conditions for air travel which exists in Persia appear not to be realised by the author, who discusses aviation in one short paragraph only.

Strategical problems are not discussed by the writer, probably due to his being unversed in military matters and therefore unwilling to give opinions. From the data given in the book, the military reader can form his own conclusions.

Dr. Millspaugh's unstinted admiration of the genius and ability of Reza Khan, who since the book was written has become Shah of Persia, is fully justified. In the concluding chapter, he expresses the opinion that Persia may now be expected to produce able leaders in the future, should Reza Khan drop his leadership. We trust his prediction is correct.

The book is printed on good paper in clear type and has a number of excellent illustrations. The two maps included are poor, inaccurate in places, and of too small a scale. The inclusion of a good map for reference purposes would have been an asset to the book.

TALKS ON LEADERSHIP.

BY BASILISK.

(*Published by the Royal Artillery Institution, Woolwich, 1926, 1s. 4d.*)

This little book contains some useful hints on a very important subject.

It deals with a Royal Artillery subaltern's attitude towards his men but applies equally well to the dealings of any officer with the men under him.

As the author says in his preface, the book is not meant for a born leader of men but for those to whom the faculty of leadership does not come naturally.

As such it cannot fail to be of use.

IN THE HEART OF ASIA.

BY LIEUT.-COLONEL P. T. ETHERTON.

(*Messrs. Constable & Co., Ltd., London, 1925, 16s.*).

This most interesting book is a record of several years spent as His Majesty's Consul General and Political Resident in Chinese Turkestan immediately after the Great War. It is written with knowledge and insight and is not lacking in humour. In producing such a work, the chief difficulty must always be the presentation of events in their correct sequence when different situations develop simultaneously. Lieut.-Colonel Etherton has endeavoured to overcome this by completing the story of each development before commencing the next. The result is a certain overlapping and repetition, which, while not detracting from the value of the work, tends to confuse the reader.

Sir Aurel Stein described Chinese Turkestan as a huge desert with a fringe of little oases, a description which is at once succinct and accurate, except that it does not take into account the rich and fertile valley of Ily to the North of the Tian Shan mountains. Lieut.-Colonel Etherton goes into more detail without differing materially from the discoverer of Aornos. In 1918, Ma Titai was Commander-in-Chief of the province and his ruthless cruelty is portrayed with a clarity which is apt to make the reader overlook the assistance he gave during his lifetime in keeping the country free from Bolshevism. His murder in 1924, for however great his crimes the word 'execution' seems unjustified where no trial took place, helped to open the way for Bolshevik intrigue. The stories related of his cruelties recall Bernier's letters from the Court of the Moghul Emperor, and one is further reminded of the French traveller by the tale of a consulate groom who established himself in business as a medical man on the strength of a copy of the one of Guy Boothby's novels, which he carefully consulted before prescribing for his patients. The Chinese system of drawing pay for soldiers who only exist on paper was paralleled in India at a comparatively recent date.

While at Kashgar, Lieut.-Colonel Etherton was brought into close touch with Russian Turkestan and his book contains a clear account of the absorption by the Bolsheviks of the State of Bokhara. The Amir had offered to confine his vast wealth, totalling no less than thirty-five million pounds sterling in gold and silver coins and ingots, to the Consulate at Kashgar; an offer which it was found impossible to accept with the result that this treasure fell into the hands of the Bolsheviks. Even more interesting is the account of the massacre at Kokand. This town was layed waste with a ruthlessness that would have surprised a Mongol conqueror of the middle ages and more than fourteen thousand of the people were massacred. A blockade was instituted by which the remaining inhabitants were debarred from receiving grain from adjacent provinces, their own supplies having already been commandeered. Over nine hundred thousand people are said to have perished from this famine.

Lieut.-Colonel Etherton is decidedly bitter over the result of the Third Afghan War 'and the conclusion of a treaty devoid of compensating advantage to ourselves or any punishment for our outraged dignity.' There seems no doubt that this treaty did considerable damage to our prestige throughout Central Asia. This was perhaps inevitable at a time when the army in India was war weary, the British soldiers being anxious for early demobilisation in order to be able to compete in the labour market with their friends from France, while the majority of Indian soldiers as well as their officers were untrained in mountain warfare. The transport situation was even more serious. It is possible that Lieut.-Colonel Etherton overestimates the loss of prestige. The magnificent work done by the 19th Punjabis and 28th Light Cavalry in Russian Turkestan the previous year could not easily be forgotten and it should be remembered that the Afghan division in Herat took no action against our weak force in Khorassan. Such facts are apt to impress an Eastern people more than a written treaty the effects of which are not easily apparent outside Kabul. The treaty, undoubtedly, was an excellent handle for ante-British propaganda, especially in Chinese Turkestan which was remote from the war, and it is easy to believe that the Bolsheviks were not slow to take advantage of it.

Lieut.-Colonel Etherton makes some interesting remarks on the principle of extra-territoriality from which it is quite clear that until there is a radical change in the system of administering law together

with a civilised scale of punishments and a Government strong enough to enforce it, there can be no question of allowing British subjects to be tried in a Chinese court.

Western Mongolia comes within the Consular jurisdiction of Kashgar and Lieut.-Colonel Etherton gives some valuable information about this little-known country. The greater part of Mongolia is covered by the Gobi desert. This is not exclusively desert for there are tracts of grass land offering opportunities for extensive sheep and cattle breeding. The eastern side of the desert is far from being arid and approximates more to the Canadian prairies, and may become one of the great wheat producing areas of the future. Stretching along the northern and western sides of the Gobi desert are the Altai mountains, one of the richest and most fertile regions in Asia with great mineral resources. Lieut.-Colonel Etherton thinks that the centre of our commercial and mining activities should be the Altai and that part of the Chinese Empire lying north of Ily and the Tian Shan mountains.

The whole book is full of valuable information, historical, ethnographical and topographical regarding a country which is destined to play an important part in the future history of the world. It contains little that is controversial and yet much that leads to thought. No one who takes an interest in the countries beyond the borders of India can afford to ignore so considerable a contribution to knowledge of a part of the east so little known.

FALSE DAWN.

BY AL. CARTHILL.

(*Messrs. William Blackwood & Co., London, 1926, 10s. 6d.*).

The author of "The Lost Dominion" has certainly added to his literary reputation by the publication of "False Dawn." He deals with a difficult subject in a clear and most convincing manner and the book goes far to fulfil its object which is to state in an impartial manner the causes which render a society such as our own susceptible to revolutionary ideas.

The essential differences between Communism and Socialism, are most clearly put and cannot fail to give the reader a fuller insight into these matters.

The dangers of class hatred and the difficulties of Government under the party system where more than two parties exist are most forcibly put. "The whole system depends for its success on the division of the citizens into two, and not more than two great parties, for if there are more great parties than two it would be possible for a combination of two or more to keep one out of office permanently.

In that case the excluded party, knowing that it could not come to power by constitutional means, might, if it contained earnest fanatics or impatient idealists, attempt to come to power by force, . . . And in fact, I do not see that it would be very possible to work the constitution even with two parties if these parties represented unconcilable interests. . . . It is possible that the ship of State might continue to sail, when for one watch it was steered towards the St. Lawrence, and during the next towards the Chesapeake. I suppose it would arrive at New York not a bad port. But how if the officer of the coming watch was suspected of a desire to scuttle the ship? Would the officer now in charge hand over with a cheery goodnight and go below to don his patent waistcoat?"

The book is certainly very well worth reading.

THE FIGHTING FORCES.

(*Gale and Polden, 5s. quarterly*).

(October 1926).

This number is not quite so interesting as the last one but contains several articles well worth reading.

There is an attractive description of a days pigsticking by "Syrinx" and a good article on post-war conditions in India for the British Service officer by Brevet Lieut.-Colonel A. B. Beauman which gives a very fair summing up of the advantages and disadvantages of soldiering in India to-day.

A short article entitled "Surfeit in Game and Starvation in Study" draws rather an exaggerated picture of the excessive amount of time devoted to sport in the Indian Army. It is stated that an average weeks sport is "no less than three hourly matches at which the British officer is expected to be either playing or refereeing. Another afternoon will be devoted to either running or football . . . polo two or three times a week if the regiment turns out a team, with tennis and

golf to fulfil one's social obligations. Even then we have left out cricket, which in so many stations is a Sunday fixture, which means net practice during the week."

This can hardly be called an "average" week in the Indian Army and gives a wholly erroneous impression that attention is only paid to sport—whereas a large number of units are in frontier stations where time and facilities for games are few and quite a large portion of the cold weather is generally spent in training camps or on manoeuvres.

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Honorary Members shall be entitled to attend the lectures and debates, and to use the premises and Library of the Institution without payment; but should they desire to be supplied with the Journal, an annual payment of Rs. 10, in advance, will be required.

Divisional, Brigade and Officers' Libraries, Regimental Messes, Clubs, and other subscribers for the Journal, shall pay Rs. 10 per annum.

Sergeants' Messes and Regimental Libraries, Reading and Recreation Rooms shall be permitted to obtain the Journal on payment of an annual subscription of Rs. 10.

If a member fails to pay his subscription for any financial year (ending 31st December) before the 1st June in the following year, a registered notice shall be sent to him by the Secretary inviting his attention to the fact. If the subscription is not paid by 1st January following his name shall be posted in the Reading Room for six months and then struck off the roll of members.

Members joining the Institution, on or after the 1st October, will not be charged subscription until the following 1st January, unless the Journals for the current year have been supplied.

Members are responsible that they keep the Secretary carefully posted in regard to changes of rank and address. Duplicate copies of the Journal will not be supplied free to members when the original has been posted to a member's last known address, and not been returned by the post.

All communications shall be addressed to the Secretary, United Service Institution of India, Simla.

*Rs. 7 in the case of British Service Officers serving in India.

Contributions to the Journal.

All papers must be typewritten (in duplicate) and only on one side of the paper. All proper names, countries, towns, rivers, etc., must be in capital letters. All plans must have a scale on them.

Contributors are responsible, when they send articles containing any information which they have obtained by virtue of their official positions, that they have complied with the provisions of A. R. I. para. 204, and King's Regulations, para. 509.

Anonymous contributions under a *non-de-guerre* will not be accepted or acknowledged; all contributions must be sent to the Secretary under the name of the writer and the paper will, if accepted, be published under that name unless a wish is expressed for it to be published under a *non-de-guerre*. The Executive Committee will decide whether the wish can be complied with.

The Committee reserve to themselves the right of omitting any matter which they consider objectionable. Articles are only accepted on these conditions.

The Committee do not undertake to authorise the publication of such papers as are accepted in the order in which they may have been received.

Contributors will be supplied with three copies of their paper *gratis*, if published.

Manuscripts of original papers sent for publication in the Journal will not be returned to the contributor, unless he expresses a wish to have them back and pays the postage.

MILITARY WIDOWS' FUND, —— BRITISH SERVICE ——

THIS FUND enables a British Service (Army) officer, by subscribing from Rs. 6 to Rs. 10 per quarter, to assure, in the event of his death while on the Indian Establishment, immediate payment :—

To his widow	Rs. 5,850	to	Rs. 8,250
For each child	„ 500	to	„ 750

Payments are made immediately on receipt of report of death, irrespective of death occurring in or out of India.

The sum paid to the widow varies with subscription and the sum for each child varies with age of child. Subscriptions are based on the rank of the officer.

Benefits are payable whether the deceased officer's family is residing in India or not.

It is to the advantage of an officer to join the Fund on his first tour of service in India, as otherwise, on joining it in a subsequent tour he would have to pay subscriptions for any previous tours in the country as a married officer, since 1st January 1919.

The Fund (late Queen's Military Widows' Fund) was established in 1820, to assist families of British Service (Army) officers dying in India, and mainly to enable them to return Home without delay.

The Fund is controlled by a Committee consisting of and elected by subscribing officers serving at Army Headquarters, Simla.

For admission and rules apply to :—

The Secretary,
MILITARY WIDOWS' FUND,
Army Headquarters, Simla.

United Service Institution of India.

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His Excellency the Viceroy and Governor-General of India.

VICE-PATRONS :

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His Excellency the Governor of Bihar and Orissa.
His Excellency the Governor of Burma.
His Excellency the Governor of the Central Provinces.
His Excellency the Governor of Assam.
His Excellency the Naval Commander-in-Chief, East Indies.
The General Officer Commanding-in-Chief, Northern Command.
The General Officer Commanding-in-Chief, Southern Command.
The General Officer Commanding-in-Chief, Eastern Command.
The General Officer Commanding-in-Chief, Western Command.

MEMBERS OF THE COUNCIL, 1926-27.

Ex-officio Members.

- | | |
|--|--|
| 1. The Chief of the General Staff. | 9. The Air Vice-Marshal, Commanding R. A. F. in India. |
| 2. The Secretary, Army Department. | 10. The Director-General, Indian Medical Services. |
| 3. Sir Denys Bray, K.C.I.E., C.S.I., C.B.E. | 11. The Director, Medical Services. |
| 4. The Hon'ble Mr. J. Crerar, C.S.I., C.I.E. | 12. The Director, Royal Indian Marine. |
| 5. The Adjutant-General in India. | 13. The Director, Military Operations, General Staff, A. H. Q. |
| 6. The Quartermaster-General in India. | |
| 7. The Master-General of Supply in India. | |
| 8. The Engineer-in-Chief. | |

Elected Members.

- | | |
|---|--|
| 14. Major-Genl. H. E. ap Rhys Pryce, C.B., C.M.G., D.S.O. | 18. Major-General J.F.S.D. Coleridge, C.B., C.M.G., D.S.O. |
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| 16. Major G. de la P. Beresford, M. C. | 20. Major R. G. Cherry, M.C., R. A. |
| 17. Squadron Leader E. J. Hodsoll, R.A.F. | |

MEMBERS OF THE EXECUTIVE COMMITTEE, 1926-27.

Elected Members.

- | | |
|---|--|
| 1. Major-General Sir Walter S. Leslie, K.B.E., C.B., C.M.G., D.S.O. | 4. Colonel M. Saunders, D.S.O. |
| 2. Major-General H. E. ap Rhys Pryce, C.B., C.M.G., D.S.O. | 5. Major R. G. Cherry, M.C., R.A. |
| 3. Colonel W. D. Croft, C.M.G., D.S.O. | 6. Major G. de la P. Beresford, M.C. |
| | 7. Squadron Leader E. J. Hodsoll, R.A.F. |

Additional Members.

- | | |
|---|---|
| 8. Colonel on the Staff H. C. Jackson, C.B., C.M.G., D.S.O. | 11. Captain T. R. Evans. |
| 9. Major N. L. Mitchell-Caruthers. | 12. Captain R. J. Wilkinson, O.B.E., F.R.G.S. |
| 10. Captain G. N. Molesworth. | |

SECRETARY & EDITOR
SUPERINTENDENT ..
LIBRARIAN ..
BANKERS ..

..CAPTAIN J. G. SMYTH, V.C., M.C.
..SUB-CONDR. J. C. ALFORD.
..MISS W. MCCORMICK.
..LLOYDS' BANK LIMITED.
(COX'S AND KING'S BRANCH), SIMLA.

1. The United Service Institution of India is situated at Simla.
2. Officers wishing to become members of the United Service Institution of India should apply to the Secretary. The rules of membership are printed inside front cover.

3. The Reading-room of the Institution is provided with all the leading newspapers, magazines, and journals of military interest that are published.

4. There is a well-stocked library in the Institution, from which members can obtain books on loan free. Suggestions for new books are solicited, and will be submitted to the Committee. Books are sent out to members V.-P. for the postage.

5. The Institution publishes a Quarterly Journal in the months of January, April, July and October which is issued postage free to members in any part of the world.

6. Members and the public are invited to contribute articles to the Journal of the Institution for which honoraria will be awarded by the Executive Committee. Rules for the guidance of contributors will be found in para. IV, Secretary's Notes.

7. **Members are responsible that they keep the Secretary carefully posted with regard to changes of address.**

8. When temporarily in the U. K. Officers of the Indian Army can join the Royal United Service Institution, Whitehall, for a period of six months on payment of half a guinea, or for a period of one year on payment of a guinea.

NOTICE.

Members are requested not to remit their subscriptions by means of currency notes unless the covers are registered and fully insured.

United Service Institution of India.

APRIL, 1927.

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I.—New Members.

The following new members joined the Institution from 1st December 1926 to 28th February 1927.

ORDINARY MEMBERS.

Lieut. A. N. Skinner.
Captain A. S. Sullivan.
Captain G. A. L. Farwell.
Lieut. E. F. E. Armstrong.
Captain W. M. Jenkins.
Captain J. E. B. Barton.
Captain D. St. V. Gordon.
Lieut. F. W. Vogel.
Lieut. W. R. S. Webb.
Lieut. E. K. Wood.
Lieut. H. O. C. Bland.
Lieut. J. D. G. Linehan.
Captain R. C. Howman.
Captain C. W. Toovey.
2nd-Lieut. N. I. Mackenzie.
Bt. Lieut.-Col. T. S. Cotgrave.
Lieut. P. C. Hailey.
Captain R. H. L. Minchin.
Captain F. Buckley.
Lieut. A. R. Churchill.
Captain C. D. Moorhead.
Captain J. A. Drake.
Major A. T. Miller.
Lieut. E. I. E. Strong.
Captain F. W. L. McC. Parker.
Captain G. C. A. Voysey.

II.—Examination.

Books on military history and languages with dictionaries are available in the Library. The following list of books may be found useful for reference by officers studying for Promotion Examinations or entrance to the Staff College :—

(The list of books presented and purchased as shown in the Journal should also be consulted).

MILITARY HISTORY.

1. *The Campaign of the British Army in France and Belgium up to 20th November, 1914.*

A.—OFFICIAL HISTORY OF THE WAR.

Military Operations, France and Belgium, Vol. I (to October, 1914).

Military Operations, France and Belgium, Vol. II (to 20th November, 1914).

Sir John French's Despatches.

B.—OTHER BOOKS.

40 days in 1914 (General Maurice, new edition).

1914 (Viscount French).

My War Memories (Ludendorff).

General Headquarters, 1914—16, and its Critical Decisions (Falkenhayn).

The March on Paris, 1914 (Von Kluck).

Ypres, 1914. (An official account) (German General Staff).

Oxford Pamphlets, August 1914. The Coming of the War. (Spencer Wilkinson).

Oxford Pamphlets, August 1914, Nos. VII and X.

Times Documentary History of the War, Vol. V, Military, Part I.

Times Documentary History of the War, Vol. VIII, Part III.

Der Grobe Krieg: Die Schlacht bei Mons (German General Staff).

Der Grobe Krieg: Die Schlacht bei Longwy (German General Staff).

Story of the Fourth Army (Montgomery).

2. *The Palestine Campaign.*

A.—OFFICIAL ACCOUNTS.

A Brief Record of the Advance of the Egyptian Expeditionary Force, 1919.

The Australian Imperial Force in Sinai and Palestine (H. S. Gullett).

The New Zealanders in Sinai and Palestine (Lt.-Col. C. G. Powles).
Yilderim (Dr. Steuber).

B.—OTHER BOOKS.

Allenby's Final Triumph (W. T. Massey).

How Jerusalem was Won (W. T. Massey).

Outline of the Egyptian and Palestine Campaigns, 1914-18
(Bowman-Manifold).

L'Attaque du Canal de Suez (Douin).

3. *The Gallipoli Campaign.*

Official Account : Official History of the War, Naval Operations,
Vols. II and III.

Gallipoli Campaign (Outline of Military Operations). By A
Student.

Official Despatches.

The Dardanelles (Callwell).

Experiences of a Dugout (Callwell).

Despatches from the Dardanelles (Ian Hamilton).

The Navy in the Dardanelles Campaign (Wemyss).

The World Crisis (Winston Churchill).

4. *The Russo-Japanese War, 1904, up to and including the
Battle of Liao-Yang.*

A Staff Officer's Scrapbook (Ian Hamilton).

German Official Account.

Lectures on the Strategy of the Russo-Japanese War (Bird).

Question on the Russo-Japanese War (Brunker).

Official Account : The Russo-Japanese War (Naval and Military),
3 Vols., published by Committee of Imperial Defence.

Outline of the Russo-Japanese War (Ross).

A Study of the Russo-Japanese War (Chasseur).

My Experiences at Nan Shan and Port Arthur (Tretyakow).

Outline History of the Russo-Japanese War, 1904, up to the
Battle of Liao-Yang, with Questions and Answers (P. W.).

A short account of the Russo-Japanese War ("Footslogger").

An account of the Battle of Liao-Yang (with questions and 10
maps of examination purposes) (Bird).

5. *Organization of Army since 1863.*

A.—ORGANIZATION OF ARMY SINCE 1868.

History of British Army, by Fortescue, Vols. I to XI.

Outline of the Development of British Army, by Major-Genl. Sir
W. H. Anderson.

Our Fighting Services, by Sir Evelyn Wood.

B.—FORCES OF THE EMPIRE.

* Notes on the land forces of the British Dominions, Colonies,
Protectorates and Mandated Territories, 1925.

The Statesman's Year Book.

Army List.

Articles in Newspapers and Magazines, viz., R. U. S. I.

Army Quarterly, Journal of the U. S. I. of India, etc.

6. *Development and Constitution of the British Empire.*

A.—THE BRITISH EMPIRE.

Encyclopædia Britannica—(contains much concentrated information).

The Statesman's Year Book.

Whitaker's Almanack.

The Colonial Office List.

The Government of the British Empire (Jenks, 1923).

The Foundation and Growth of the British Empire (J. A. Williamson, 1918).

The Beginnings of English Overseas Enterprise (Sir C. P. Lucas, 1917).

The British Empire Series. (XII volumes).

The Government of England (L. A. Lowell, 1912).

The Expansion of the British Empire (W. H. Woodward, 1921 and 1924 edition).

Overseas Britain (E. F. Knight, 1907).

The Origin and Growth of the English Colonies and of Their System of Government (H. E. Egerton, 1903).

A Short History of Politics (Jenks, 1900).

The English Constitution (Bagehot, 1909).

The Expansion of England (Sir J. Seely, 1883).

* Particularly recommended by the C. I. G. S. for all officers to read.

Introduction of the Study of the Law of the Constitution (A. V. Dicey, 1908).

England in the Seven Years' War (Sir J. Corbett, 1907).

Selected Speeches and Documents on British Colonial Policy, 2 Vols. (A. B. Keith, 1918).

B.—BOOKS ON SPECIAL PORTIONS OF THE EMPIRE OR WORLD.

The Rise and Expansion of British Dominions in India (Sir A. C. Lyall, 1894).

A Brief History of the Indian Peoples (Sir W. H. Hunter, 1907).

The Nearer East (Hogarth, 1902).

Modern Egypt (Cromer, 1908).

Egypt and the Army (Elgood, 1924).

The History of Canada (W. L. Grant).

Nova Scotia (B. Wilson, 1911).

Report on British North America (Sir C. P. Lucas).

The Union of South Africa (R. H. Brand, 1909).

Short History of Australia (E. Scot).

History of the Australasian Colonies (Jenks, 1912).

The English in the West Indies (J. A. Froude, 1888).

The Lost Possessions of England (W. F. Lord, 1896).

7. *Military Geography.*

Naval and Military Geography of the British Empire (Dr. Vaughan Cornish, 1916).

Imperial Military Geography (Capt. D. H. Cole, 1926).

Introduction of Military Geography (Col. E. S. May).

Imperial Defence (Col. E. S. May).

Main Feature of the Japanese and other Pacific Problems.

(Reprinted from *Morning Post*. Sifton Præd).

Britain and the British Seas (H. J. Makinder, 1907).

Military Geography (Macguire).

Imperial Strategy (Repington).

War and the Empire (H. Foster).

Historical Geography of British Colonies (Dominions), 7 Vols.

(Sir C. P. Lucas, 1906-17)—

- Vol. 1, Mediterranean.
- Vol. 2, West Indies.
- Vol. 3, West Africa.
- Vol. 4, South Africa.
- Vol. 5, Canada.
- Vol. 6, Australia.
- Vol. 7, India.

The Influence of Sea Power on History (A. T. Mahan, 1890).
 Historical Geography of the British Empire (Hereford George).
 The Mastery of the Pacific (A. R. Colquhoun, 1902).
 Frontiers (C. B. Fawcett, 1918).

8. *Foreign Armies.*

OFFICIAL.

- * Handbook of the United States Army, 1924.
- * Handbook of the Army of the Netherlands, 1922.
- * Handbook of the French Army, 1925.

9. *Tactical.*

Common mistakes in the solution of tactical problems and how to avoid them (Lieut.-Colonel A. B. Beauman, 1926).

Historical illustrations to Field Service Regulations, Vol. II (Major E. G. Eady, 1926).

Elementary tactics or the art of war, British School (Major R. P. Pakenham-Walsh, 1926).

III.—Payment for Articles in the Journal's.

Articles accepted for publication in the Journal are paid for, and a sum of approximately Rs. 500 is awarded for articles and reviews published in each Quarterly Journal.

IV.—Contributions to the Journal.

Articles submitted for publication must be typed in *duplicate*. With reference to Regulations for the Army in India, paragraph 204 and King's Regulations, paragraph 509, action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee.

*NOT to be removed from the library.

*Instructions for the preparation of drawings and plans for
reproduction by lithography.*

These should be in *jet* black. No washes or ribands of colour should on any account be used.

If it is absolutely necessary to use colour (and these are only permissible in line work or names) the following will reproduce photographically, *i. e.* :—

Dark red, dark orange, dark green. No other colour should on any account be used.

V.—Library Rules.

1. The Library is only open to members and honorary members of the United Service Institution of India. Members are requested to look upon books as not transferable to their friends.

2. No book shall be taken from the Library without making the necessary entry in the register. Members residing permanently or temporarily in Simla are requested to enter their addresses.

3. The United Service Institution of India is open all the year round—including Sundays—from 9 A.M. until sunset. Books may be taken out at any time provided Rule 2 is complied with.

4. A member shall not be allowed, at one time, more than three books or sets of books.

5. Papers, magazines, "works of reference" or books marked "Not to be taken away," or noted as "Confidential" may not be removed.

6. No particular limit is set as to the number of days for which a member in Simla may keep a book, the Council being desirous of making the library as useful as possible to members; but if after the expiration of a fortnight from date of issue it is required by any other member it will be re-called.

7. Applications for books from members at out-stations are dealt with as early as possible, and books are despatched per Registered V. P. P. They must be returned carefully packed per Registered Parcel Post within one month of date of issue, or application made for permission to retain them for a further period. This will always be granted unless the book is required by another member.

8. If a book is not returned at the end of four months, it must be paid for without the option of return, if so required by the Executive Committee.

9. Lost and defaced books shall be replaced at the cost of the member to whom they were issued. In the case of lost books which are out of print the value shall be fixed by the Executive Committee, and the amount, when received, spent in the purchase of a new book.

10. The issue of a book under these rules to any member implies the latter's compliance with the rules, and the willingness to have them enforced, if necessary, against him.

11. A list of all books presented and purchased, and also a list of books useful to members studying for the Staff College and Promotion Examinations, will be found under Secretary's Notes in the quarterly issue of the U. S. I. Journal. Members are invited to note any books which they think might with advantage be procured for the Institution.

12. Members are invited to contribute presents of books, maps, and photographs of naval and military interest. These may be addressed to the Secretary, U. S. I. of India, Simla. They will be duly acknowledged.

VI.—Library Catalogue.

The catalogue is completed to 31st March 1924. Price Rs. 3-8-0 or postage paid Rs. 3-14-0.

VII.—Gold Medal Prize Essay Competition, 1927.

The Council has chosen the following subjects for the Gold Medal Essay for 1927 :—

- (i) In view of the climatic and physical features of theatres in which the Army in India is likely to be employed, consider the possibility of mechanizing its various arms and services. To what extent would such mechanization affect our present methods of operating on the North-West Frontier of India ?

or

- (ii) In the event of a war threatening British interests in the Far East and Indian Ocean, consider the best method of employing the fighting forces of India, and such expeditionary forces as the Australasian Dominions may be able to furnish as a covering force, pending the mobilization of the resources of the Empire.

The following are the conditions of the competition :—

1. The competition is open to all gazetted officers of the Civil Administration, the Royal Navy, Army and Royal Air Force or Auxiliary Forces who are members of the U. S. I. of India.
2. Essays must be printed or type-written and submitted in triplicate.
3. When a reference is made to any work, the title of such work is to be quoted.
4. Essays are to be strictly anonymous. Each must have a motto and, enclosed with the essay, there should be sent a sealed envelope with the motto written on the outside and the name of the competitor inside.
5. Essays will not be accepted unless received by the Secretary on or before the 30th June 1927.
6. Essays will be submitted for adjudication to three judges chosen by the Council. The judges may recommend a money award, not exceeding Rs. 150, either in addition to or in substitution of the medal. The decisions of the three judges will be submitted to the Council, who will decide whether the Medal is to be awarded and whether the essay is to be published.
7. The name of the successful candidate will be announced at a Council Meeting to be held in September or October 1927.
8. All essays submitted are to become the property of the United Service Institution of India absolutely and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.
9. Essays should not exceed 15 pages of the size and style of the Journal exclusive of any appendices, tables or maps.

By order of the Council,

J. G. SMYTH, CAPTAIN,
Secretary, U. S. I. of India.

SIMLA :

1st April 1927.

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VIII.—Army List Pages.

The U. S. I. is prepared to supply members and units with manuscript or type-written copies of Indian Army List pages, at the rate of Rs. 2 per manuscript or type-written page.

IX.—**BOOKS PRESENTED.**

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. A Brief Outline of the Campaign in Mesopotamia, 1914-18. (Presented by Messrs. Sifton, Praed & Co., Ltd., London.)	1926	R. Evans.
2. Imperial Defence 1588-1914 .. (Presented by Messrs. Sifton Praed & Co., Ltd., London.)	1926	J. F. C. Fuller.
3. Notes on the Campaign in France 1914 (Presented by Messrs. Sifton Praed & Co., Ltd., London.)	1926	A. Kearsley.
4. A Greater than Napoleon-Scipio Africanus. (Presented by Messrs. William Blackwood & Sons, Ltd., London.)	1926	B. H. Liddell-Hart.
5. India's Parliament, Vol. XII . . . (Presented by Central Publication Branch, Calcutta.)	1926	Official.
6. Imperial Defence—A Book for Taxpayers. (Presented by Messrs. Ernest Benn, Ltd., London.)	1926	S. King-Hall.
7. Common Mistakes in the solution of Tactical Problems & how to avoid them. (Presented by Messrs. Hugh Rees, Ltd., London.)	1926	A. B. Beauman.

BOOKS PRESENTED.

<i>Title.</i>		<i>Published.</i>	<i>Author.</i>
8. Military Report on the Colony and Protectorate of Gambia (Vol. I.)		1926	Official.
(Presented by the Central Publication Branch, Calcutta.)			
9. A Shikari's Pocket Book	..	1926	C. McCann & C. H. Stockley.
(Presented by the Oxford University Press, Bombay.)			

BOOKS PURCHASED.

1. Governments and War	..	1926	F. Maurice.
2. The Socialist Network	..	1926	Nesta H. Webster.
3 Military Organization and Administration, 5th edition.		1926	W. G. Lindsell.
4. Jane's Fighting Ships	..	1926	O. Parkers and F. E. M. McMurtrie.
5. Letters of a Soldier to His Son..		1926	R. Cardew.
6. Whitaker's Almanack	..	1927	..
7. A Short life of Marlborough	..	1926	H. J. Edwards.
8. Soldiers and Statesman, 1914-18..		1926	Sir W. Robertson.

BOOKS ON ORDER.

Secret and Confidential	Brig.-Genl. W. H. H. Waters.
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X.—Pamphlets.

The following may be obtained by V. P. P., plus postage, on application to the Secretary :—

- (a) British and Indian Road Space Tables (separately). As. 12 each.
- (b) Diagram of Ammunition Supply (India). As. 4.
- (c) Home War Establishment Tables (provisional). Re. 1-4-0.
- (d) Diagram showing new system of maintenance in the field at Home. As. 8.
- (e) Military Law Paper, questions and answers. As. 4. (As used at the A. H. Q. Staff College Course, 1926).

XI.—Schemes.

The schemes in the Institution have been considerably increased and in order to simplify their issue they have been classified and numbered as follows :—

They can all be obtained by V.-P. P. plus postage, on application to the Secretary.

- (A) *Administrative Exercise* (with diagram) .. Rs. 2.

To illustrate the supply system of a Division.
Suitable for Staff College or promotion.

- (B) *Mountain Warfare* Rs. 5 each.

- (i) Three lectures on Mountain Warfare.
- (ii) A scheme complete with Map and Solution.

- (C) *New Staff College Series* (1926) Rs. 5 each.

Each of these schemes is complete with map, solution and reasons. Each scheme contains three situations.

- (i) Approach March.
Reconnaissance of night attack.
Orders for night attack.
- (ii) Outposts.
Defence.
Action of a Force retiring.
- (iii) Move by M. T.
Occupation of a defensive position.
Counter-attack.
- (iv) Tactical Exercise without troops.
Reconnaissance for attack.
Attack orders.

(D) *Promotion Series* Rs. 5 each.

Each of these schemes is complete with map and solution.

Lieutenant to Captain—

(i) Mountain Warfare.

(ii) Defence.

Attack orders.

Captain to Major—

(i) Outpost.

Defensive position.

Withdrawal.

(ii) Tactical Exercise without troops.

Reconnaissance.

Attack orders.

(iii) Appreciation of the situation.

(E) *Staff College Course Schemes* (1926).

(i) A set of three schemes, as given at the A. H. Q. Staff College Course, 1926, complete with map and solutions. *Complete set Rs. 6.*

A limited number of the following papers are available :—

(ii) Tactical Exercise without troops (with map and solution) Rs. 3-8.

(iii) Outpost problem (with map and solution) .. Rs. 3

(iv) Rearguard scheme (with map and solution) .. Rs. 3.

(v) Organisation and Administration paper (with solution) Rs. 2.

(F) Copies of the recent (February 1927) Staff College Examination papers are available :—

Training for war papers (with maps) Rs. 3 each.

Other papers Re. 1 ..

(G) Course of five lectures given at the London School of

Economics, 1925, on "Transportation in War" .. As. 12 each.

Efforts are being made to compete with demands for tactical schemes from officers working for the Staff College and Promotion Examinations by introducing as many new schemes as possible.

It is obviously impossible for the Secretary to undertake the correction of individual solutions, but all the recent schemes include a suggested solution in the form in which it is considered that the paper should have been answered with reasons for the solution given.

Officers are recommended to work all their schemes against time and to get into the habit of the methodical allotment of time to the various questions asked.

Prize Essay Gold Medalists.*(With rank of Officers at the date of the Essay.)*

- 1872..ROBERTS, Lieut.-Col. F. S., V.C., C.B., R.A.
 1873..COLQUHOUN, Capt. J. S., R.A.
 1874..COLQUHOUN, Capt. J. S., R.A.
 1879..ST. JOHN, Maj. O.B.C., R.E.
 1880..BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882..MASON, Lieut. A. H., R.E.
 1883..COLLEN, Maj. E. H. H., S.C.
 1884..BARROW, Capt. E. G., 7th Bengal Infantry.
 1887..YATE, Lieut. A. C., 27th Baluch Infantry.
 1888..MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., 24th Punjab Infantry (specially awarded a silver medal).
 1889..DUFF, Capt. B., 9th Bengal Infantry.
 1890..MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891..CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893..BULLOCK, Maj. G. M., Devonshire Regiment.
 1894..CARTER, Capt. F. C., Northumberland Fusiliers.
 1895..NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896..BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897..NAPIER, Capt. G. S. F., Oxfordshire Light Infantry.
 1898..MULLALLY, Maj. H., R.E.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899..NEVILLE, Col. J. P. C., S.C.
 1900..THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R. E. (specially awarded a silver medal).
 1901..RANKEN, Lieut.-Col. G. P. P., 46th Punjab Infantry.
 1902..TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903..HAMILTON, Maj. W. G., D.S.O., Norfolk Regiment.
 BOND, Capt. R. F. G., R.E. (specially awarded a silver medal).
 1904..MACMUNN, Maj. G. F., D.S.O., R.F.A.
 1905..COCKERILL, Maj. G. K., Royal Warwickshire Regiment.
 1907..WOOD, Maj. E. G. M., 99th Deccan Infantry.
 1908..JEUDWINE, Maj. H. S., R.A.
 1909..MOLYNEUX, Maj. E. M. J., D.S.O., 12th Cavalry.
 ELSMIE, Maj. A. M. S., 56th Rifles, F. F. (specially awarded a silver medal).
 1911..MR. D. PETRIE, M.A., Punjab Police.
 1912..CARTER, Maj. B. C., The King's Regiment.
 1913..THOMSON, Maj. A. G., 58th Vaughan's Rifles (F. F.).
 1914..BAINBRIDGE, Lieut.-Col. W. F., D.S.O., 51st Sikhs (F. F.).
 NORMAN, Maj. C. L., M.V.O., Q.V.O., Corps of Guides (specially awarded a silver medal).
 1915..No Award.
 1916..CRUM, Maj. W. E., V.D., Calcutta Light Horse.
 1917..BLAKER, Maj. W. F., R.F.A.
 1918..GOMPERTZ, Capt. A. V., M.C., R.E.
 1919..GOMPERTZ, Capt. M. L. A., 108th Infantry.
 1920..KEEN, Lt.-Col. F. S., D.S.O., 2/15th Sikhs.
 1921..No Award.
 1922..MARTIN, Maj. H. G., D.S.O., O.B.E., R.F.A.
 1923..KEEN, Colonel F. S., D.S.O., I.A.
 1926..DENNY, Major L. E., M.C., 4/12th Frontier Force Regiment.

MACGREGOR MEMORIAL MEDALS.

1. The MacGregor Memorial Medal was founded in 1888 as a memorial to the late Major-General Sir Charles MacGregor. The medals are awarded for the best military reconnaissances or journeys of exploration of the year.

2. The following awards are made annually in the month of June :—

(a) For officers—British or Indian—silver medal.

(b) For soldiers—British or Indian—silver medal, with Rs. 100 gratuity.

3. For specially valuable work a gold medal may be awarded in place of one of the silver medals, or in addition to the silver medals, whenever the administrators of the fund deem it desirable. Also the Council may award a special additional silver medal, without gratuity, to a soldier, for special good work.

4. The award of medals is made by His Excellency the Commander-in-Chief, as Vice-Patron, and the Council of the United Service Institution who were appointed administrators of the Fund by the MacGregor Memorial Committee.

5. Only officers and soldiers belonging to the Army in India (including those in civil employ) are eligible for the award of the medal.*

6. The medal may be worn in uniform by Indian soldiers on ceremonial parades, suspended round the neck by the ribbon issued with the medal.†

Note.

(i) Personal risk to life during the reconnaissance or exploration is not a necessary qualification for the award of the medal ; but in the event of two journeys being of equal value, the man who has run the greater risk will be considered to have the greater claim to the reward.

(ii) When the work of the year has either not been of sufficient value or has been received too late for consideration before the Council Meeting, the medal may be awarded for any reconnaissance during previous years considered by His Excellency the Commander-in-Chief to deserve it.

MacGregor Memorial Medalists.

(With rank of officers and soldiers at the date of the Award.)

1889..BELL, Col. M.S., V.C., R.E. (specially awarded a gold medal).

1890..YOUNGHUSBAND, Capt. F. E., King's Dragoon Guards.

* *N. B.*—The terms " officer " and " soldier " include those serving in the British and Indian armies and their reserves, also those serving in Auxiliary Forces, such as the Indian Auxiliary and Territorial Forces and Corps under Local Governments, Frontier Militia, Levies and Military Police, also all ranks serving in the Indian State Forces.

† Replacements of the M. M. ribbon may be obtained on payment from the Secretary, U. S. I., Simla.

MacGregor Memorial Medalists—(*contd.*).

- 1891..SAWYER, Major H. A., 45th Sikhs.
RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892..VAUGHAN, Capt. H. B., 7th Bengal Infantry.
JAGGAT SINGH, Havildar, 19th Punjab Infantry.
- 1893..BOWER, Capt. H., 17th Bengal Cavalry (specially awarded a gold medal).
- FAZALDAD KHAN, Dafedar, 17th Bengal Cavalry.
- 1894..O'SULLIVAN, Major G. H. W., R.E.
MULL SINGH, Sowar, 6th Bengal Cavalry.
- 1895..DAVIES, Capt. H. R., Oxfordshire Light Infantry.
GANGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896..COCKERILL, Lieut. G. K., 28th Punjab Infantry.
GHULAM NABI, Sepoy, Q. O. Corps of Guides.
- 1897..SWAYNE, Capt. E. J. F., 10th Rajput Infantry.
SHAHZAD MIR, Dafedar, 11th Bengal Lancers.
- 1898..WALKER, Capt. H. B., Duke of Cornwall's Light Infantry.
ADAM KHAN, Havildar, Q. O. Corps of Guides.
- 1899..DOUGLAS, Capt. J. A., 2nd Bengal Lancers.
MIHR DIN, Naik, Bengal Sappers and Miners.
- 1900..WINGATE, Capt. A. W. S., 14th Bengal Lancers.
GURDIT SINGH, Havildar, 45th Sikhs.
- 1901..BURTON, Maj. E. B., 17th Bengal Lancers.
SUNDAR SINGH, Colour Havildar, 31st Burmah Infantry.
- 1902..RAY, Capt. M. R. E., 7th Rajput Infantry.
TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
- 1903..MANIFOLD, Lieut.-Col. C. C., I.M.S.
GHULAM HUSSAIN, Lance-Dafedar, Q. O. Corps of Guides.
- 1904..FRASER, Capt. L. D., R.G.A.
MOGHAL BAZ, Dafedar, Q. O. Corps of Guides.
- 1905..RENNICK, Maj. F., 40th Pathans (specially awarded a gold medal).
MADHO RAM, Havildar, 8th Gurkha Rifles.
- 1906..SHAHZADA AHMAD MIR, Risaldar, 36th Jacob's Horse.
GHAFUR SHAH, Lance-Naik, Q. O. Corps of Guides Infantry.
- 1907..NANGLE, Capt. M. C., 92nd Punjabis.
SHEIKH USMAN, Havildar, 103rd Mahratta Light Infantry.
- 1908..GIBBON, Capt. C. M., Royal Irish Fusiliers.
MALANG, Havildar, 56th Punjab Rifles.
- 1909..MUHAMMAD RAZA, Havildar, 106th Pioneers.

MacGregor Memorial Medalists—(concl'd.).

- 1910..SYKES, Maj. M., c.m.g., late 2nd Dragoon Guards (specially awarded a gold medal).
 TURNER, Capt. F. G., R.E.
 KHAN BAHADUR SHER JUNG, Survey of India.
- 1911..LEACHMAN, Capt. G. E., The Royal Sussex Regiment.
 GURMUKH SINGH, Jemadar, 93rd Burmah Infantry.
- 1912..PRITCHARD, Capt. P. P. A., 83rd Wallahabad Light Infantry (specially awarded a gold medal).
 WILSON, Lieut. A. T., c.m.g., 32nd Sikh Pioneers.
 MOHIBULLA, Lance-Dafedar, Q. V. O. Corps of Guides.
- 1913..ABBAY, Capt. B. N., 27th Light Cavalry.
 SIRDAR KHAN, Sowar, 39th (K. G. O.) Central India Horse.
 WARATONG, Havildar, Burmah Military Police (specially awarded a silver medal).
- 1914..BAILEY, Capt. F. M., I.A. (Political Department).
 MORSHEAD, Capt. H. T., R.E.
 HAIDAR ALI, Naik, 106th Hazara Pioneers.
- 1915..WATERFIELD, Capt. F. C., 45th Rattray's Sikhs.
 ALI JUMA, Havildar, 106th Hazara Pioneers.
- 1916..ABDUR RAHMAN, Naik, 21st Punjabis.
 ZARGHUN SHAH, Havildar, 58th Rifles (F. F.) (specially awarded a silver medal).
- 1917..MIAN AFRAZ GUL, Sepoy, Khyber Rifles.
- 1918..NOEL, Capt. E. W. C. (Political Department).
- 1919..KEELING, Lt.-Col. E. H., M.C., R.E.
 ALLA SA, Jemadar, N.-E. Frontier Corps.
- 1920..BLACKER, Capt. L. V. S., Q. V. O. Corps of Guides.
 AWAL NUR, C. Qm. Havildar, 2nd Bn., Q. V. O. Corps of Guides.
 (Special gratuity of Rs. 200.)
- 1921..HOLT, Major A. L., Royal Engineers.
 SHER ALI, Sepoy No. 4952, 106th Hazara Pioneers.
- 1922..ABDUL SAMAD SHAH, Capt., O.B.E., 31st D. C. O. Lancers
 NUR MUHAMMAD, Lance-Naik, 1st Guides Infantry, F. F.
- 1923..BRUCE, Capt. J. G., 2/6th Gurkha Rifles.
 SOHBAT, Head Constable, N. W. F. Police.
 HARI SINGH THAPA, Survey Department.
- 1924..HAVILDAR RAHMAT SHAH, N. W. F. Corps.
 NAIK GHULAB HUSSAIN, N. W. F. Corps.
- 1925..SPEAR, Captain C. R., 5/13th Frontier Force Rifles.
 JABBAR KHAN, NAIK, 5/13th Frontier Force Rifles.
- 1926..HARVEY-KELLY, Major C. H. G. H., D.S.O., 4/10th Baluch Regiment;

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EDITORIAL.

Although the situation may have changed considerably before this issue of the Journal is published, the Chinese situation cannot fail to be the focus of the world's attention at the present time.

It is far from easy for the uninitiated to follow exactly what is going on in China and the intricate nomenclature of the chief Chinese commanders concerned makes it even more difficult. The situation is by no means free from alarm and our little Defence force at Shanghai, consisting of two brigades from Home and one from India, is likely to find itself in that always unenviable position of an outsider trying to interfere in a dog fight, the reward for which interference is generally a few bites and little thanks.

The action of the Bolsheviks in fomenting the trouble and backing the "Red" Chinese is consistent with their present policy, to which strong exception has recently been taken by the British Government.

To attempt to forecast the trend of events in China would obviously be impossible but the task set the Shanghai Defence Force is no easy one, but such as frequently falls to the lot of British commanders in all parts of the World.

Every care has been taken at Home to impress on all concerned that the Shanghai force has been sent solely for police duty and in no way with any intention of aggression—indeed this would obviously be impossible with a force of 20,000 men in a country with a population of 400 millions. British troops have been sent to Shanghai solely with the object of safeguarding British life and property in China.

* * * * *

1927 promises to see still further strides made in the mechanization of the army and the work of the mechanized brigade, which is being formed at Tidworth under Colonel Fuller, will be watched with the greatest interest.

The trials conducted recently in India have definitely proved that the commercial cross country transport vehicle is adaptable to army needs and that we need not go to the almost impossible expense of designing a machine for military purposes only.

Our trials of the new rigid 6-wheelers have now progressed sufficiently to enable us to gauge the main factors of their employment and their possibilities for Indian conditions, though they will continue to be improved in detail.

We have seen how the Morris, which is in the "Light" category, is fully capable of replacing that very useful but rather archaic vehicle, the A. T. Cart, and that at the same time its introduction opens up the possibility of taking about a stone off the man and two stone off the horse, with a consequent increase to their mobility and fighting power.

The introduction of a cross-country "cooker," which will cook in transit, will be a great step forward and will add years to the life of the harassed Quartermaster and Staff Captain of the Indian Army.

There have been later trials of the bigger machines in the "medium" category for the traction or carriage of Field Artillery and for use as 2nd and 3rd line transport. These were tried out in Delhi in comparison with horse teams and the mechanical vehicles appeared to come out rather second best. It must, however, be remembered that many of the obstacles which proved such a stumbling block to the machines would and could have been avoided, or have been rendered easily surmountable, by a reconnaissance party of two or three men sent forward with picks and shovels.

No lovers of the horse wish to see that animal supplanted by the machine and the results of these trials were hailed by some as being a distinct set back to mechanization in India, whereas they simply proved that trials under Home conditions must be supplemented and confirmed by trials under our conditions before one can say definitely that a machine is suitable for India. The nice easy slopes of European conditions, with soft going underneath, do not bring out the advantages of the small machine such as the Morris, with the flexibility and handiness to insinuate itself into the tortuous turns of the nullah.

The fact must remain that the Home authorities have embarked on a policy of increasing mechanization and we may expect to see a somewhat slower, but none the less sure, increase of mechanized transport and tractor vehicles in India during the next few years.

* * * * *

During the last few years there has been an increasing amount of expert opinion in favour of the replacement of the Lewis gun by some other form of handier light automatic weapon or, better still, by an automatic rifle. There is no doubt that the Lewis gun sections, though strong in fire-power are a handicap to the mobility of the platoon as a whole and are really a relic of stationary warfare.

Since the war our every effort, especially in India, has been to increase our mobility and striking power without diminishing our fire power, and the comparative immobility of the Lewis gun and its mules is always the stumbling block. The introduction of an automatic rifle would solve the problem but no really suitable weapon of this type has so far been invented.

It has now been decided at Home to increase the Vickers guns by 4 per battalion and to reduce the platoon by one Lewis gun section, thus making its composition 1 Lewis gun section and 2 rifle sections.

* * * * *

There is a curious idea, expressed almost universally, that the introduction of tanks and the mechanization of the army generally, will make warfare less dangerous. This idea has perhaps been fostered by certain modern writers who draw optimistic pictures of the immunity from danger of the man in the armoured vehicle as compared with his less fortunate and out-of-date comrade who is foot-slogging it on the ground.

The memory of our first tank attacks against the unprepared German infantry in 1916 will not fade quickly. How often does one hear opinions expressed to the effect that, as warfare becomes more scientific it will become more genteel. Certainly the increased mobility of the modern army points to a quicker decision being gained but there is nothing to point to that decision being less costly to arrive at.

The old wooden battleship stood a whole day's pounding with round shot at close range and was unlucky to suffer 50 per cent casualties, the modern iron clad may go straight to the bottom after being

struck by one torpedo. One invention always produces a counter and it is a depressing, though probably a true, prophecy that the next great war is likely to be quite as dangerous and costly in human life, if not more so, than the last.

Where the scientific method should really be made almost to eliminate casualties is in warfare with a savage enemy when we should see to it that every invention known to modern science is employed to impose our will with the least expenditure of valuable man power.

* * * * *

Just as the intensive nature of modern training makes it difficult for a commanding officer to teach his men all they are required to know in the time available, so has it become increasingly difficult for the modern officer, keen on his profession, but perhaps of average ability, to know what to work at to further his professional knowledge and what to leave out. There appears to be altogether too much which it is essential to know a multitude of training manuals, periodicals, papers, essays and books which seem to increase yearly.

The result is generally hurried and unintelligent reading with little sound knowledge resulting.

In a little book called "Twelve tests of character" the first chapter is entitled "First things first" and it is this ability to spot the "first things"—those which it is *essential* to study and to know—and to put the "second things" aside, which has to be cultivated.

The present Staff College syllabus, and even that for promotion, covers such a wide area that many competitors make the mistake of trying to digest too much in the time they have available, with the result that they know a little about most things but not a very convincing amount about anything.

This is a contravention of the fourth principle of war and a not uncommon cause of failure.

* * * * *

Certain changes have been made in the syllabus for the 1928 Staff College examination.

Their chief effect is to give more importance to the study of Military History, Military Topography and Engineering and to Military Law.

The Training for War subject has been re-named "Strategy and Tactics" and comprises one paper on military history and the principles of war, one paper on the solution of tactical problems from the map and with those affecting the training of the army in peace, one paper on military evolution and the influence of modern inventions on warfare and a fourth paper on military technique, i. e., writing of orders, etc.

The voluntary subjects have been divided into 3 categories out of which a candidate can take 3 subjects altogether.

In accordance with Army Order 443 of 1926 officers must have 4 years' service and have passed for promotion to captain before they can be put on the "Selected List" and must then be on this list a year before they can take the examination.

* * * * *

The question of the shortage of British officers in the Indian Army, of which mention was made in the last Editorial, has since been receiving considerable attention in the Press.

One letter from a correspondent published recently and signed "mater familias" goes so far as to suggest that the remedy is to "propagand" the Indian Army more by sending Home Indian Army officers on leave so well paid that their well dressed wives might be an object of remark.

Much can certainly be done by propaganda but this would perhaps be going too far, and might prove too expensive!

* * * * *

The players to accompany the Army in India polo team to America have now been finally selected and the ponies and players will have left for Home before this article appears in print.

During the recent cold weather the team has shown varying form, at times depressing the spirits of their supporters below zero but always rising to the occasion when any opposition was met with worthy of their steel.

Whatever fortune may befall them in the International matches we may rest assured that they will worthily uphold the reputation of Indian polo and will give away nothing in the matters of physical

fitness, hard riding, and care of ponies, whose management could not be in more capable hands.

* * * * *

The M. C. C. Cricket XI has returned Home after a triumphant and unbeaten tour in India. It cannot be said that they always played exhilarating cricket, in fact towards the end of their tour, in their anxiety to maintain an unbeaten record, their play was sometimes dull to the point of boredom and the proportion of drawn matches against rather mediocre teams was excessive. They had, however, a great many difficulties to contend with, chief among them being too many fixtures, too much travelling and too few players for such a long and exhausting tour.

That they have benefited the game in India cannot be doubted and their fine fielding and sportsmanlike behaviour on all occasions will long be remembered.

The enthusiasm and numbers of Indian spectators, particularly in the south of India, have been remarkable and are indicative of the spread in popularity of the game in this country among all classes.

* * * * *

Now that the Army Championships at Rawalpindi have been done away with, the importance of the more local Army sporting events such as the Army Lawn Tennis Championships held in Delhi and the Punjab Native Army hockey tournament held in Jhelum has been enhanced.

The hockey tournament attracted over 20 teams from the Indian Army and is always a most keenly contested event.

The 2/14th Punjab Regiment are to be congratulated on their fine performance in coming through from such a large field, as are also the runners up, the 2/11th Sikh Regiment, who can have had few opportunities of tournament practice in such stations as Manzai and Tank.

Hockey is once more flourishing in the Indian Army and, as the one game where officers and men can play together, deserves every encouragement.

ROYAL AIR FORCE CO-OPERATION WITH THE ARMY.

*(A lecture delivered at the Army Headquarters Staff College Course 1926,
by Squadron Leader E. J. Hodson.)*

1. Type of Squadron.

Army co-operation squadrons are at present equipped with Bristol Fighter aeroplanes. These machines are fitted with 275 h. p. Rolls Royce engines and carry a pilot and a passenger. They are armed with two machine guns, one firing through the propeller and one aft from the passenger's cockpit. They can carry two 112 lb. or twelve 20 lb. bombs. Their endurance is normally $2\frac{1}{2}$ hours at a speed of 75 m.p.h. Their ceiling is about 13,000 feet.

2. Allotment.

One squadron is allotted to each division of the existing expeditionary force (Home). In a great war this allotment may have to be reduced to 1 squadron per corps, but this will depend on circumstances and supplies available. Squadrons may be allotted to cavalry and tanks according to circumstances and the number of squadrons available. In certain kinds of warfare a squadron will be allotted to Army Artillery.

3. Relations with Army Formation Headquarters.

The corps squadron will normally accompany its affiliated formation—corps or division, wherever it goes. This is desirable, since the personnel of the squadron will have worked with this unit in peace and the personal factor, which is so valuable, will be preserved.

This squadron will carry out all the air operations and requirements of its affiliated unit in accordance with the recognised procedure. It is of the greatest importance that commanders and staff officers understand the limitations and capabilities of the aircraft working with them; unless this is done unreasonable or impossible demands or requests may be made on them. Aircraft characteristics are very clearly set out in para. 18 of F. S. R., Part II, and need not be reiterated here.

The army formation to which the squadron is attached is responsible for the supply of all non-technical stores such as rations, petrol,

oil, bombs, etc., the R. A. F. responsibility covers everything needed for the upkeep of aeroplanes, M. T. and personnel. The guarding of the aerodrome, if necessary, is an army responsibility as is also the supply of unskilled labour.

4. Internal Organization of a Squadron.

The squadron is divided into 3 flights and a headquarters. It is entirely mobile on its own transport. One flight is capable of maintaining one machine continuously in the air all day so that a squadron can keep three machines always in the air, provided it is up to establishment. In peace time a squadron has 12 machines which is increased to 18 or 24 in war time.

5. Distribution of Work.

(i) STATIONARY WARFARE.—In trench warfare the normal allotment is 2 flights for counter battery work and 1 flight for close reconnaissance and photography.

(ii) OPEN WARFARE.—In open warfare distribution must depend on the amount of corps or divisional control. The front in this case is usually divided into 2 lanes, which are allotted to divisions and brigades, with a flight working over each lane for close reconnaissance: the third flight being superimposed over the top for work with light and medium artillery.

Whatever the distribution, flights are all interchangeable and can be employed on either artillery or infantry reconnaissance work; personnel are trained for both. There are certain technical difficulties in the way of very rapid changes, since W/T is used for artillery and R/T for infantry work and apparatus must be changed over since machines are not fitted with both R/T and W/T.

6. Co-operation with Infantry.

We will consider first co-operation with infantry, and I will take the case of the division, which will, I think, be most useful to you.

The first object of the squadron before the battle is joined is reconnaissance and I would ask you to study para. 35, F. S. R., Vol. II. This reconnaissance is purely tactical and is combined with photography.

It will not normally extend to more than 20 miles over hostile territory and generally rather less than this.

(i) CO-OPERATION DURING APPROACH MARCH.—We will suppose that the division is advancing on a single road and consider the

employment of aircraft. In this phase it will be their duty to keep the divisional commander informed of any movements of the enemy on his front. One R/T and one W/T machine in the air will probably be sufficient, keeping one flight in reserve. The Army co-operation squadron has two mobile tenders, one R/T should be up with the advanced guard, and the W/T (C. W. S.) with divisional headquarters.

(ii) CO-OPERATION WHEN CONTACT MADE WITH ENEMY. THE ENCOUNTER ATTACK.—We can now pass on to the attack. Para. 76 F. S. R., II lays down the role of aircraft in the encounter attack. This paragraph may, in a way, mislead you a little. Sub-para. 2 stresses the importance of attaining air superiority—the responsibility for this is not the work of the Army co-operation squadron as this paragraph might be taken to imply—it is the work of the single seater fighters which may be classed as army troops—you will readily realise that if your army co-operation squadrons are going to spend half their time combating enemy aircraft, you will get very little value from them. Sub-para. 3 gives various functions for aircraft in the attack and I will say a few words to amplify these rather cryptic statements. It is suggested in sub-para. (i) that they should take offensive action against enemy troops by bombing and machine gun fire. This work is not, strictly speaking, a normal job for army co-operation aircraft; the commander must decide which is most important, *i. e.*, co-operation or “straffing.” I don’t suggest for a moment that your machines should never be employed on this sort of work, but they should not be thoughtlessly ordered out, since heavy casualties may occur and machines may not be available at a later time when they are more urgently needed. I am just advising caution and a careful weighing of the issues.

Artillery and tank co-operation I will deal with later.

Bombing raids by day and night. This is the job of special squadrons working independently or with higher formations and is not the job of the army co-operation machines. Requests for such bombing must be addressed to higher formations.

The particular role of aircraft in the encounter attack, if operating with a division, will be close reconnaissance, including photography and artillery reconnaissance. It is likely that two flights will be working with the infantry and one with the artillery, but this must

depend on circumstances and no hard and fast rule can be laid down. The infantry machines will keep the commander informed of the position of our own and the enemy's troops.

(iii) **THE DELIBERATE ATTACK.**—The case of the deliberate attack is very similar to the encounter attack. The role of the co-operation squadrons is practically the same, although in the early stages it is probable that the artillery may require more machines than the infantry. Para. 85 of F. S. R., II, sets out briefly the various considerations, but most of these are concerned with army and independent air operations.

(iv) **THE PURSUIT.**—Finally in the pursuit, aircraft will be employed to harass the enemy in every way, as laid down in para. 87, section 7, F. S. R., II.

(v) **NEED FOR ADVANCED LANDING GROUND.**—There is a point I would emphasise before leaving this phase—advanced landing grounds are most necessary near to, or actually at divisional headquarters. Although a squadron is a mobile unit, it cannot be continually on the move without its efficiency suffering, since running repairs to aircraft and M. T. will be impossible or difficult. The main base should not normally be moved more than once every 50 miles. By having an advanced landing ground close to divisional headquarters personal touch can always be kept, which is the most valuable factor of all. A small advanced squadron H. Q. will be located at the advanced landing ground to help divisional H. Q. and form a forward dump of petrol, oil, etc.

(vi) **DEFENCE.**—The role of co-operation aircraft in the defence is clearly set out in para. 107, F. S. R., Vol. II, and I would draw your especial attention to the last three lines of para. 110, section 6: the employment of aircraft during a retirement. The main duty is to locate the enemy's main thrust and keep the commander informed of any fresh developments.

(vii) **COMMUNICATION.**—All co-operation with infantry is by R/T or message dropping; with the development of R/T, the latter is falling into disuse; other methods are Klaxon horns, flares, Very lights or message picking up. It must be remembered, however, that R/T has many technical disadvantages and is still in the experimental stage. It only has a range of 5 miles at present though it should be reliable up to 15 miles to be really useful.

(viii) SUPPLY.—Aircraft may be used in an emergency to supply, first line troops or isolated detachments with ammunition or supplies : this is not, however, a normal task and should only be used in extreme measures, since the aircraft so employed will be lost to their legitimate work whilst engaged on this service.

(ix) SUMMARY.—To summarise, therefore, briefly the work of aircraft in co-operation with infantry :—

- (a) CLOSE RECONNAISSANCE (our own forces—late contact patrol). To maintain touch with our own most advanced troops, who must make their position known to the aeroplane by an identification which must be specified in orders. The aeroplane drops marked maps, giving their positions, to headquarters of the formation concerned.
- (b) CLOSE RECONNAISSANCE (enemy forces—late counterattack patrol). This is in the nature of a protective reconnaissance and is usually carried out in conjunction with contact patrol work, both being known as close reconnaissance. The position of parties of enemy troops are reported by wireless. Demands from military formations for protective reconnaissance will best be given by specifying successive areas at such a distance ahead that aircraft are kept working continuously at a safe distance in advance of the leading troops.

As already stated, contact and counterattack patrols should be combined wherever possible—this is generally quite feasible while operations are mobile and close contact has not been established with the enemy. As soon as fighting develops, however, communications from front to rear will be more difficult, and it may be necessary to employ special contact aeroplanes to locate and keep track of the position of our most advanced troops.

When putting in requests for message bag reports from the air, it must be remembered that reports cannot normally be dropped on more than 3 different stations at a time, and it is better to limit it to one station. Message dropping stations should be clearly located and cited in orders, which the R. A. F. should see, and it must be remembered that message dropping is not very economical in that the aeroplane has to leave its area and return and descend to a low height

to execute this mission, thus entailing absence during what may be a critical part of the battle.

W/T and not R/T reports are used to indicate artillery targets. They will be received by mobile reception stations (1 per corps and 2 per division). Allotment to artillery brigades at home is 2 receivers of which one goes to brigade headquarters and one to howitzer battery.

R/T is used for reports concerning the enemy and is received by mobile reception stations who can ask the aeroplane definite questions. R/T is not at present used for sending information about our own troops, for reasons of secrecy, except by means of the protractor reference.

7. Cavalry Co-operation.

This is in reality much the same as infantry co-operation on a more extended scale and during a more rapidly changing situation. The main object of aerial reconnaissance will be to pierce the hostile covering screen or discover the enemy's flanks. Aircraft should give the cavalry general information which will enable them to frame their operations as to the direction they should take to obtain the detailed information which the commander desires. Aircraft cannot replace cavalry because their information is only general, the two working together, however, should form a valuable combination for ascertaining the enemy's movements. Communications from cavalry to air is by message picking up and from air to ground by message bag, unless an R/T tender is attached to cavalry force headquarters, an unlikely contingency. The greatest difficulty in this form of co-operation is to keep in touch with cavalry divisional headquarters and careful arrangements need to be made beforehand.

8. Tank Co-operation.

Tanks need co-operation of a type very similar to that of infantry, which is only natural since they are a species of armoured infantry, and when closed for action, rather a blind species. We can help them with contact and counterattack patrol and in addition by special reconnaissances and oblique photography to show the contour of the ground in front of them and for the location of possible obstacles in action, information is required of the presence of anti-tank guns (single guns are, as a matter of fact, practically impossible to spot owing to the ease with which they can be concealed) and enemy tanks. This information may be supplied by the close or long

distance machines and may be of especial value if long raids behind the enemy's lines are contemplated.

Before leaving this branch of co-operation, I should like to say a word on future developments.

In mobile warfare in the future it is now possible to contemplate raids into enemy territory by mechanical columns, consisting of tanks, dragons and lorries full of infantry. Such columns will be intended to penetrate distances up to 50 miles or more into enemy territory. Aircraft co-operation in such cases will be essential. The use of wireless by the column will probably be most undesirable and the progress, etc., of such a column must be reported by aircraft. Artillery reconnaissance in co-operation with the dragons will also be required, and it seems likely that a flight or even a whole squadron will be detailed to co-operate during such an operation. Inter-communication between tanks and aircraft is by R/T.

9. Artillery Co-operation.

It is the duty of aircraft to discover suitable targets, such as formed bodies of troops, in mobile warfare, hostile batteries, etc., and to confirm by photography and reconnaissances, targets discovered by ground observation, *i. e.*, sound ranges and flash spotters, etc.

Aircraft observe the fire of artillery on targets, but no control of the battery's method of fire is exercised, except that the battery only fires on the observer's signal. The observer records "hits" on a target or re-arrange during "fire for effect", if fire is erratic.

(i) **STATIONARY WARFARE.**—In stationary warfare in pre-arranged shoots everything is naturally known beforehand, which makes it very much easier for all concerned.

In mobile warfare artillery co-operation will generally be limited to work with advanced guards of a corps, mixed brigade or independent division, and is usually restricted to zone calls. The enemy's country is divided into zones and certain batteries are detailed to areas with calls for each zone.

(ii) **RETIREMENT.**—This method will apply equally in a retirement where it is relatively easier in that the artillery are more certain to be in action.

Co-operation with the artillery of the protective screen will not often be undertaken, but should it be necessary, the method already described can be adopted.

10. Photography.

I do not propose to say very much about photography although it is of considerable importance, both in stationary and mobile warfare. In the former, the corps front is entirely photographed once every 7—10 days in addition to any special requirements—in the latter, it is useful if mobile situation stabilises for a short time—when the situation is actually mobile tactical photography is not of great value as changes are taking place so rapidly.

11. A few general Points.

(a) In mobile warfare, army co-operation squadron headquarters will move by bounds with limited transport only and establish a temporary landing ground as close to corps or divisional headquarters as possible.

(b) It has already been emphasised that the main aerodrome should only move by bounds of 50 miles at a time, unless reasons make it imperative to depart from this procedure. Staff officers should be trained in the selecting of landing grounds, so that where possible headquarters of military formations may be located close to a suitable site.

(c) The army are responsible for all land line communications between the R. A. F. and the army, the R. A. F. for all W/T communications.

(d) I would finally emphasise one very important point. It is very little use sending aircraft out on a roving mission; the area they cover is so vast that no good results will be obtained, but possibly only information of a very general character which may be valueless, or at least, of only passing interest. The pilot must be given definite questions on which answers are required; this will localise his activities and give him a definite object and he will pay particular attention to obtaining the information required. Good results may be expected if this is done and a sort of definite information programme worked to, instead of relying on haphazard information which may, or may not, be of value.

12. Examples of the employment of Aircraft.*(a) Infantry Division.*

Allotted one squadron A. C. machines.

- (i) DURING ADVANCE BEFORE CONTACT WITH ENEMY IS MADE.—
1 flight close reconnaissance.

2 flights in reserve.

R/T tender with advanced guard or advanced division.

Advanced landing ground close to headquarters.

Main aerodrome some way behind, 2nd tender (CWS)
with divisional headquarters.

Role of aircraft to keep main body informed of location of advanced guard and to report movements of enemy.

An extra reconnaissance machine should not be necessary except for special missions.

(ii) WHEN CONTACT MADE WITH ENEMY.

Two flights close reconnaissance.

One flight artillery reconnaissance.

Communications as before.

(iii) WHEN BATTLE JOINED.

As for (ii) but possibly two flights required for artillery reconnaissance.

(iv) PURSUIT.

Two flights in offensive attacks against enemy, one flight close reconnaissance.

(v) RETREAT.

One or two flights artillery reconnaissance if targets available, one flight harassing enemy. If artillery not in action two flights harassing enemy, one close reconnaissance.

(b) *Cavalry Division or Brigade.*

Allotted one squadron.

(i) When not in contact with enemy, two flights close reconnaissance.

R/T tender with divisional or brigade headquarters if available; if not, communication by ground strip and message picking up. General reconnaissance on which cavalry will conduct detailed reconnaissances.

(ii) WHEN CONTACT MADE WITH ENEMY.

Two flights close reconnaissance. One flight artillery reconnaissance, if artillery present.

Object to keep cavalry headquarters informed of position of our own troops and also enemy's.

(iii) PURSUIT OR RETREAT.

Two flights harassing enemy.

One flight close reconnaissance.

Cavalry are mainly employed, except in very open country under favourable circumstances, in forming a protective screen in front of the army. Aircraft co-operating will probably form a link between the screen and the main body or advanced guard, in addition to assisting cavalry.

(c) *Mechanical Brigade.*

Duties will consist in the main of close reconnaissances, with the object of keeping headquarter mechanical force informed of enemy dispositions and headquarters army of progress of mechanical force. If mechanical force has to deploy, aircraft may also be required to spot for the dragon. W/T will not be used during a raid of this nature until the enemy are aware of what is afoot.

No hard and fast rules can be laid down in regard to the allotment of aircraft during the various phases or with the different forces. The guiding factor must naturally be the situation, but as a general rule reconnaissance of the enemy will predominate in the early stages; as the situation becomes more involved artillery and contact reconnaissance become of increasing importance and probably artillery reconnaissance may predominate. Finally, reconnaissance and offensive action will assume priority until the engagement ceases.

Personal touch between the squadron and force is most essential and is a point which must not be neglected or forgotten, and I would again emphasise the need for aircraft to be set definite tasks instead of being allowed to float round on nebulous missions; it is only in this way that satisfactory results will be obtained.

It is important to remember as well that night work is not possible as well as day, and that on the whole, day work by A. C. squadrons is the most valuable; night reconnaissance can best be carried out by the special squadrons allotted to the army for this work.

The A. C. squadron is essentially a unit for tactical work and any reconnaissance, etc., required more than 20 miles over

the enemy's lines, should be asked for from the army, who have special squadrons allotted for this work. Ground strafing by A. C. squadrons may be most valuable at times but should not be used indiscriminately, as it takes machines away from their legitimate work and may result in losses out of proportion to the results obtained.

Finally, I would again urge the importance of the personal element, which, when all is said and done is, and must be, the life and soul of efficient co-operation.

APPENDIX I.

SPACE OCCUPIED BY TRANSPORT OF A SQUADRON.

(*Light and Heavy Tenders only*).

	<i>S. Fighter.</i>	<i>Corps. Rec.</i>	<i>Single Seater Bomber.</i>	<i>Twin Engined Bomber.</i>
(a) Frontage in line with 3 feet space.	..28 yds.	28 yds.	28 yds.	28 yds.
(b) Column of route with 4 feet space.	..70 yds.	70 yds.	70 yds.	70 yds.

These are figures for England.

Figures for abroad are approximately double.

APPENDIX II.

ESTABLISHMENT OF M. T. VEHICLES.

A. C. Squadron.

	<i>Home.</i>	<i>Abroad.</i>	
Touring cars	.. 1	1	
Light tenders	.. 5	7	
Heavy tenders	.. 4	11	} This establishment is the same for a single bombing squadron.
Ambulances	.. 1	1	
Motor cycles	.. 3	5	
Side cars	.. 2	4	
Repair lorries	.. 1	2	
Trailers I. A.	.. 4	8	
Trailers H. P.*	.. ..	..
Trailers wing	.. 1	1	
Trailers water cart	.. 1	1	
Bicycles	.. 1	1	
Hucks starters	.. 1	1	
Tractors	

APPENDIX III.
TRANSPORTATION TABLE.

1 Squadron Bristol Fighter or D. H. 9a.

	<i>Without tents.</i>	<i>With tents.</i>
<i>No. of packages</i>	.. 1,806	1,844
<i>Deadweight</i>	.. 229 tons, 18 cwt.	230 tons, 30 cwt.
<i>Shipping tons</i>	.. 1,794	1,803
<i>Tonnage feet</i>	.. 32	44
<u><i>Bristol Fighter.</i></u>		
<i>No. of cases</i>	.. 1	
<i>Dimensions</i>	.. 27' 6" × 7' 9" × 7' 5"	
<i>Deadweight</i>	.. 2 tons, 5 cwt.	
<i>Shipping tons</i>	.. 39·21	
<u><i>D. H. 9a.</i></u>		
<i>No. of cases</i>	.. 1	
<i>Dimensions</i>	.. 30' 5" × 7' 9" × 7' 7"	
<i>Deadweight</i>	.. 2 tons, 18 cwt.	
<i>Shipping tons</i>	.. 44·25	

KEEPING TOUCH.

BY CAPT. L. GILBERT, M.C.

"Of the making of the books there is no end."

The responsibilities of a military officer are numerous and sometimes vague, ranging from "primary responsibility" for all losses within his command to the moral responsibility of keeping abreast of the times. Quite apart from examinations this latter responsibility makes a bigger demand on an officer's leisure than is similarly made on the leisure of his civilian brethren in the public service, and much time is lost in knocking down "men of straw." Since the Great War the task of keeping touch with the increasing volume of military literature and with the almost feverish investigations of the latest lessons is well-nigh impossible.

Leaving aside for the moment those books which serve as standard text books, do but glance at the following list of British military periodic literature:—*The Army Quarterly*, *The Journal of the Royal United Services Institution*, *The Journal of the United Services Institution, India*, *The Fighting Forces*, *The Cavalry Journal*, *The Journal of the Royal Artillery*, *The Royal Engineers' Journal*, *The R. A. S. C. Quarterly*, *The I. A. S. C. Quarterly*, *The Journal of the Royal Tanks Corps*, and *The Aeroplane*. To round off the imperial aspect we must add *The Naval Review*, *The Canadian Defence Quarterly*, etc. To complete the international aspect we must consider also *La Revue Militaire Française*, *Militär Wochenblatt*, etc. And finally, to be up-to-date, one should study certain articles in the non-service magazines, reviews, and newspapers.

Of books, there are in addition to the old standard classics, the official histories of all belligerents, the musings on the past and future by Col. Fuller, and the numerous *apologiae* and records of leading sailors, soldiers, and statesmen.

The libraries of messes, garrisons, and the service institutes enable most of us to peruse this mass at a small cost, but many officers have to do their borrowing in an inconvenient manner by post, whilst others, who have the means, prefer to possess their own copies. In

either case a legitimate part of a modern officer's peace equipment is a small travelling library. Unfortunately, the Travelling Allowance Regulations do not cater for an officer's intellectual needs.

Let us examine the contents of this literature, and note first the difficulties of keeping touch with the periodicals. One cannot afford to keep a folio of *The Times*, but many officers do keep a portfolio of newspaper cuttings, and the labour of keeping it up-to-date and in order must often preclude a second reading of the contents. Similarly, one cannot keep all magazines; some must be returned to libraries; hence another portfolio of extracts from magazines. Here again the labour of up-keep must entrench on the process of digestion. Nevertheless the examination candidate at least does need something from which to refresh his memory on the eve of the test.

The alternatives are, either to rely on a Pelmanised memory, or what to my mind is better, to concentrate on the process of digestion by means of *précis*, coupled with selection in reading.

The very writing of a *précis* often so impresses the salient facts and the skeleton of an argument on the mind that a second reference either to the original or to the *précis* is unnecessary, for it ensures Bacon's chewing and digestion. It also affords practice in expressing ideas accurately, succinctly, and without ambiguity on paper and such practice in writing makes for exactness in thinking, a desirable military virtue. After all, military memoranda and answers to examination questions are generally *précis* of what one knows of a subject, with the facts marshalled, the arguments set in due order, and a definite conclusion or recommendation made.

Be it remembered, then, that the object of military studies is not so much the mechanical absorption of facts as of developing a habit of reflection; of thinking matters out to a logical conclusion.

A certain professor once inveighed against the newspaper habit, not because he was an eccentric recluse but because he lamented that much time was wasted in perusing journalism which might be more profitably spent in reading books of weight and worth. But for modern military needs the ideal is the Greek mean, a grafting of the new on to the old; that is, first to know the "immutable principles," then to learn their application to modern conditions and to study current comment⁴

Let me repeat : first the principles, and not merely the bare statement and brief explanation of them contained in the manuals, but the study of their application in the solution of actual problems as told in military history. I am well aware that mastery in the art of war does not necessarily come to those who excel in the science of war yet I dare to say that the great masters of the art were assiduous students of the science. Gustavus Adolphus, Frederick the Great, Wolfe, Moore, Wellington, Napoleon, Jackson, Moltke, Foch, all were students, not of an abstract science, but of the ways and means by which the older masters tackled their problems. Their power if not derived from, was assuredly based on, knowledge.

“ Napoleon I. used to say that battles were won by the sudden flashing of an idea through the brain of a commander at a certain critical instant. The capacity for generating this sudden electric spark was military genius. . . . Napoleon seems always to have counted upon it, always to have believed that when the critical moment arrived the wild confusion of the battlefield would be illuminated for him by that burst of sudden flame. But if Napoleon had been ignorant of the prosaic business of his profession, to which he attended more closely than any other commander, would these moments of supreme clearness have availed him, or would they have come to him at all.”

This is of course not to explain military genius. But apart from this baffling factor of personality we may say that the art of war is comprehended in three main essentials : a sound appreciation of the situation, a sound plan, and good orders. The first two are dependent on the genius of the commander, the last on the skill and ability of his staff.

The commander's task is ever to solve a series of dilemmas in applying apparently conflicting principles, for no one of the principles can be applied absolutely and without consideration of the others.

Consider Sir John French's dilemma as he approached the Forest of Mormal in 1914. To move with his forces concentrated meant marching through the woods, with delays and many uncertainties ; to go round he must separate his forces. Do but work out that situation and you will realize that a sound decision demands insight and courage as well as logic.

Or take Nelson commanding in the Mediterranean in 1805 and charged with watching the arsenal of Toulon and the roads to the East

and to the Atlantic when Villeneuve escaped with the Toulon Fleet. What to do ? Remain on his station in the Mediterranean or seek Villeneuve's fleet ? Read Mahan's note at the end of the introduction to his "*The Influence of Sea Power on History.*" Napoleon's plan was to unite the Toulon, Brest, and Rochefort Fleets with some Spanish ships in the West Indies, and to bring this superior force back to the English Channel to cover his crossing for the invasion of England. He trusted that the first movements of these fleets would draw the English naval forces away from his objective. In spite of an initial error in reckoning Napoleon's objective to be Egypt, Nelson's realization that Villeneuve's fleet was his objective, and his tenacious pursuit of it, prevented the naval combination which was an essential preliminary to Napoleon's campaign. Napoleon, on learning that Villeneuve had failed to unite with the Brest Fleet, abandoned his project two months before Trafalgar was fought. Thus, by correctly selecting his objective (here came the conflict of principles), by courageously abandoning all others as being of secondary importance (here again conflict of principles), and by energetically pursuing that objective, Nelson saved England for the time being, and later, at Trafalgar, made it impossible for Napoleon to revert to his project.

For the study of such appreciations and actions it matters not that Alexander had no rifles, Cæsar no cannon, Napoleon no machine-guns, Jackson no air-craft, and Moltke no tanks. The man, the leader capably handling his forces is a greater factor in military success than scientific arms. I am well aware of the far reaching effects of modern weapons as compared with the older weapons ; that a sufficient preponderance in this or that arm, or the judicious employment of a novel weapon may turn the scale, provided there has been no experimental dabbling as of the Germans with gas and ourselves with tanks.* But the main effect of improved weapons is to enlarge the scope and complicate the conduct of war. The real problem is still how to employ them in combination with other weapons and arms on the field of battle in accordance with knowledge of their powers and limitations and with the principles of war.

It is just this combination of weapons, no matter what they be, in accordance with apparently conflicting principles, which is one of the main objects in studying military history.

* Sir John Fisher reckoned the only scale for experiment to be twelve inches to the foot.

A still more important gain to be won from the masters is an apprehension, at least, if not a thorough comprehension, of the moral factors of war. The weapon factors will ever be subject to variation due to changes in both weapons and conditions. With moral factors it is otherwise. It is doubtful whether the modern general is better able than were, say, Alexander or Hannibal, to estimate morale, that is, the reactions of human beings, individually as well as when organised in bodies, to certain stimuli. Skill in appreciating moral values in war is one mark of military genius, and it is largely a natural and intuitive ability which can rarely be acquired even through studying psychology. Nevertheless, the leader who is not inspired by genius can apprehend the main moral factors and should be able to weigh their influence in the conditions of his own times. Looked at from this practical standpoint the moral difficulties of to-day lie in the changed conditions brought about by scientific invention affecting the organization of national life as well as the machinery of war. A modern nation is a nervous creature, which can react more quickly and more completely than the states of old to the changes and chances of war; whilst on the battlefield it is more difficult for commanders, outside the regimental unit, to communicate their moral force to the troops. Careful training, sound administration, a reasonable code of discipline, and an impartial system of reward, these, as well as the commander's presence on the battlefield are to-day the means of raising and maintaining the morale of an army. History shows that such considerations have always reinforced the work of a commander's genius and the effect of his personality but they become more important when direct personal influence must be withdrawn.

Finally, the study of the masters affords practice in strategical conception and tactical method, second only in value to the experience of active service.

Therefore, I make bold to say that to study the Punic Wars may be as valuable as to study the Russo-Japanese War. Whether the object of study be moral values, naval factors, or military plans and their execution, the deeds of Hannibal, Scipio, and Nero furnish material as worthy as those of Nogi, Oku and Nodzu.

But, say you, this is rank conservatism. It is not, nor any other -ism or system. It is simply urging that war be studied not

solely from the most recent examples, but genetically, so that the future may be linked up with the past with which it is continuous, so that the developments which are bound to be made in the practice of war may be based on real knowledge rather than on airy speculation. It does not mean that all learning of the principles and practice in their application should be deferred until they have been studied in military history ; but it does mean that the soundest basis of speculation about the future is a thorough comprehension of the why and wherefore of the past. Let us not, therefore, think of the principles of war as scientific laws, dogmatic abstractions, or psychological hypotheses ; rather let us see them as a précis of the work of the masters who led real armies in real campaigns.

Remember, however, that it is not enough to study the principles in successes only ; failures may teach more since the defeated probe deeper for the truth than those who are drugged with the opiate of victory.

So much for the classics, and now to consider the uses of current periodic literature.

A staff college aspirant once asked a staff officer if he had read a certain article in "*The Times*."

"No, I seldom have the time for such reading."

"But I thought all staff officers read "*The Times* ?"

"Have you read *The Influence of Sea Power on History*."

"No. "

"Then if you are going to the Staff College, it will pay you to read less of '*The Times*' until you have."

And that is the case against periodic literature or rather the misuse of it.

It is undoubtedly necessary for soldiers to keep up-to-date. The service magazines and the current press furnish the means to this end, but such reading should not take prior place. As in the study of military history, where the detailed study of one campaign is of more permanent value than the perusal of the account of a whole war, so in more general reading the thorough comprehension of a masterpiece is of more permanent value than the mental indigestion caused by brief meals snatched from current journalism.

But masterpieces apart, the reader is faced with a bewildering number of books ; yet listen to Bacon : "Some books are to be tasted,

others to be swallowed, and some few to be chewed and digested." Therein lies the counsel of perfection—selection. And who shall teach how to select ? It is most difficult to make even a suggestion, beyond a warning not to bite off more than one can chew, for "Inconveniences always doe happen by ingurgitations and excessive feedings." This much one can say ; one must select with an object and that object will be largely determined by personal taste* or by force of circumstances such as an examination. But as there is very little new under the sun the old is a good guide to the new.

It was not my intention to write specifically of reading for examinations but those who are reading for the Staff College will suspect that the digestion of a few selected masterpieces is not an adequate preparation for that part of the syllabus which demands a general knowledge of military history. Certain questions appear to require an almost encyclopedic knowledge the absorption of which threatens "cerebral inconveniences."† But one must not condemn this demand made of the Staff College student, out of hand. Examinations serve not only to select the worthy but to prepare the ground for further study. For consider the vast amount of military history, and how impossible it is, in the space of two brief years at the Staff College, to study more than selected portions. It then appears reasonable to demand of prospective students a general knowledge of military history. At the same time, let us face facts. Not all are endowed with Napoleon's assiduity, and there is a great temptation to meet the examiner's demands by assimilating from some text-book of outlines a multitude of facts with ready-made commentaries thereon. If it be true that an ideal is an ideal only inasmuch as it is partially realised, would it not be better to prescribe a thorough study of one or two selected campaigns, together with an outline knowledge of a definite period of military history immediately anterior or posterior to the period of the campaigns selected ?

* For the secret—which is also the reward—of all learning lies in the passion for the search. —Sir A. T. Quiller-Couch.

† "A tradesman, whose business affords an excellent outlet for energetic bodily activity, told me that having attempted, in addition to his ordinary work, to acquire a foreign language which seemed likely to be useful to him, he had been obliged to abandon it on account of alarming cerebral symptoms. This man has immense vigour and energy, but the digestive functions, in this instance, are sluggish. However, when he abandoned study, the cerebral inconveniences disappeared, and have never returned since." Quoted by Sir A. T. Quiller-Couch in "The Art of Reading," p. 3.

Reverting to our proper topic of selection, we need little guidance among the old masterpieces for they are few in number. It is otherwise amongst the modern multitude. To help us in our gropings is one great value of the magazine and newspaper, which contain reviews from which one may judge which books are to be "tasted," which "swallowed," and which to be "chewed and digested". But again take warning from Bacon : "Some books also may be read by deputy, and extracts made of them by others ; but that would be only in the less important arguments and the meaner sort of books ; else distilled books are, like common distilled waters, flashy things."

The magazines also contain lectures and articles on the problems of the day. These furnish matter for reflection rather than for the note-book, a means of mental gymnastic to keep the mind supple, so that when the testing day comes it will find one ready to adapt, in a reasonable way,* existing means of war to novel conditions, and to apply new inventions to the best advantage.

Moreover, the service journals help on what Sir A. T. Quiller-Couch has called "the commerce of thought." Not all soldiers live in messes, and even amongst those who do, although there are to-day fewer restrictions on "talking shop," there is not much opportunity for the free interchange of ideas amongst officers of the various arms and branches.

Finally the journals afford relief to those afflicted (as the present writer) with what the ancients called "*Cacoethes scribendi*" and we moderns "a leaky pen."

Above all, keep in view the general object in reading, namely, to develop the art of thinking rather than to acquire facts. One cannot expect to take into battle any other literature than the Field Service Pocket Book, maps, and a pad of message forms.

During the South African War, the commanding officer of a certain regiment was a training fiend who had kept his officers' noses to the manuals of the day. Before they entrained for the front he assembled his officers and said : "Gentlemen, you may destroy your manuals. You will gain nothing by consulting them in the theatre of war."

*F. S. R. defining the essential characteristics of a commander, says : "He must have ability, clear judgment, and a well balanced sense of proportion. F. S. R. II, 1924, 10·2. (The italics are mine.) But the Principle of Adaptation is best stated in the Preface to The Book of Common Prayer. It is : "To keep the mean between the two extremes, of too much stiffness in refusing, and of too much easiness in admitting any variation."

But in the conference room, after manœuvres and exercises, and in the examination room, the manuals, especially F. S. R., Vol. II, are the touchstones by which to test our reasonings.

Therefore, in peace, we should aim at being able to assess the value of strategical argument and tactical action by reference to the manuals. Furthermore, the manuals contain many a practical tip (hard to illustrate except by laborious research) which has been taken from memoranda issued during the war, or is based on records not accessible to the average student.

A last word for those who despise reading and curse the examination which retards the advancement due to their outstanding characteristics. Ponder what the wise Bacon wrote, here reproduced in full " for ready reference. "

" Studies serve for delight, for ornament, and for ability. Their chief use for delight, is in privateness and retiring ; for ornament, is in discourse ; and for ability, is in judgment and disposition of business ; for expert men can execute, and perhaps judge of particulars, one by one : but the general counsels, and the plots and marshalling of affairs come best from those that are learned. To spend too much time in studies, is sloth ; to use them too much for ornament, is affectation ; to make judgment wholly by their rules, is the humour of a scholar : they perfect nature, and are perfected by experience : for natural abilities are like natural plants, that need pruning by study ; and studies themselves do give forth directions too much at large, except they be bounded in by experience. Crafty men condemn studies, simple men admire them, and wise men use them ; for they teach not their own use ; but that is a wisdom without them and above them, won by observation. Read not to confute, not to believe and take for granted, nor to find talk and discourse, but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be digested ; that is, some books are to be read only in parts ; others to be read but not curiously ; and some few to be read wholly, and with diligence and attention. Some books also may be read by deputy, and extracts made of them by others ; but that would be only in the less important arguments and the meaner sort of books ; else distilled books are, like common distilled waters, flashy things. Reading maketh a full man ; conference a ready man ; and writing an exact man ; and, therefore, if a man write little, he need have a great memory ; if he confer little, he need have a present

wit ; and if he read little, he need have much cunning, to seem to know that he doth not. Histories make men wise ; poets, witty ; the mathematics, subtle ; natural philosophy, deep ; moral, grave ; logic and rhetoric, able to contend ; *Abeunt studia in mores* ; nay there is no stand or impediment in the wit, but may be wrought out by fit studies : like as of diseases of the body may have appropriate exercises ; bowling is good for the stone and the rein, shooting for the lungs and the breast, gentle walking for the stomach, riding for the head and the like ; so if a man's wit be wandering let him study the mathematics ; for in demonstrations if his wit be called away never so little, he must begin again ; if his wit be not apt to distinguish or find difference, let him study the schoolmen ; for they are *Cymini Sectores*. If he be not apt to beat over matters and to call up one thing to prove and illustrate another, let him study the lawyers' cases : so every defect of the mind may have a special receipt."

THE TRAINING OF THE INDIAN PLATOON COMMANDER.

BY CAPTAIN C. W. TOOVEY, M. C.

Are we, in the INDIAN ARMY, training our platoon commanders in the "Spirit of Initiative" which modern warfare requires ?

F. S. R. 2, Chap. 1, sec. 2, after laying down that success in war depends more on moral than on physical grounds, goes on to say "the final essential is skilful and resolute leadership in every grade of command." And in the last sentence "The wide decentralization necessitated by modern weapons tends ever to increase the responsibility of subordinates ; the efficiency of the leaders of the smallest units will often be the measure of an army's success."

Also, in the memoir by the late Field Marshal Lord Roberts to "The Science of War" by Henderson, page 22, is found, "The main lessons which Henderson sought to teach in this most instructive work, were the absolute necessity for initiative and the ready acceptance of responsibility by the most subordinate leaders."

He then goes on to say that General Gneisenau had recognized the importance of this in 1814, and at the bottom of page 22 quotes from him—"A strong spirit of initiative, correct and deep-rooted instinct and unity of action are the qualities which are essential for the successful leading of the firing line ; and these are created by sound principles being grafted into the flesh and blood, thereby securing intelligent decision ; by a careful training of the capacity for independent action ; by the uniform tactical education of the officers, and by the constant practise of battle exercises."

If these qualities were recognized in 1814 as being essential for leaders, how much more important are they now owing to wide decentralization, upon which the above quoted paragraph of F. S. R. 2 lays such stress.

Now, in order to instil this spirit of initiative and independent action into Indian officers, it is essential for them to have complete control of their platoons and not to have everything done for them, thus making them afraid to act except under the orders of their company commanders.

It is here that the root of the trouble lies ; many company commanders do not seem to realize that they are dealing with Indian officers, whose education is infinitely superior to those who had been promoted before and during the war. They are slipping back to that period again, when promotion usually went by seniority, and education was often conspicuous by its absence.

But in these days when an N.-C. O. has to pass his first class education certificate, besides having to qualify at various courses, before he can obtain promotion to commissioned rank, surely he will have sufficient intelligence to appreciate being given full responsibility for his platoon, and to make good use of that gift. If he has not, he has been wrongly promoted.

It is pitiful sometimes to see platoon commanders standing by while their company commander inspects their platoons after they have already done so ; checks their Lewis gun spare parts and accessories in the monthly or quarterly check, and instructs sepoy individually during company training.

It is this failure to trust Indian officers to do their ordinary work, which kills initiative and makes them into complacent dummies.

What wonder that when they are asked suddenly to take some responsibility or act independently, often they hesitate ; lose their heads, and eventually do the wrong thing. They are then severely "told off" by their company commander, whose fault it is that they have had no proper training.

It must be remembered that an Indian infantry battalion has few British officers. And, as we know only too well, both in peace and war this number is often so reduced that one has to command two companies.

This makes it all the more important that Indian officers should be able to take complete command of their platoons, both in the field and administratively.

And moreover, the more senior ones should be capable of commanding the company at any time.

To arrive at this state of training, it is suggested that the following steps be tried :—

The company commander, however keen and capable he may be, must force himself to stand aside while his platoon commanders

take complete charge of their platoons. No doubt it will be hard at first, especially when he sees obvious mistakes being made.

Let them make mistakes. But afterwards explain to them how they went wrong and show how they should have acted.

If they are of the right type they will learn from their mistakes.

Let them be responsible for turn out of their own platoons, and do their own inspections. By this it is not suggested that the company commander should never inspect his company ; of course he must occasionally, in order to satisfy himself that everything is uniform in the platoons. What is required is that he should not do it every day, as if he was unable to trust his platoon commanders.

In field work, during company training, the company commander must refrain from rushing about from platoon to platoon checking N.-C. O.'s or sepoy's making mistakes. Better that he should wait until the movement is finished, then call up the platoon commanders, show what he has observed wrong, and let them correct the mistakes.

Should any bad errors become apparent, the movement can be stopped and the platoon commanders again called up ; after telling them what was wrong, and giving them time to explain to their platoons, the movement should be started once more.

Further, every now and then the company commander should arrange to give to the Indian officers the command of the company in the field. In order to get the best results from this, he should first of all give the selected Indian officer his general instructions, such as some place to attack, and at the same time telling him if he has to imagine the presence of any other troops.

Having done this he should go away to a distance and watch, afterwards discussing the movement with the Indian officer and letting him talk it over with the other platoon commanders.

The Indian officers like doing it, and undoubtedly it teaches them to think for themselves especially if the company commander is in the habit of placing them in command without any previous warning.

In the administration of the platoon there is much they can do.

In order that they may be fully conversant with the requirements of the men of their platoon as to clothing and equipment it is suggested that they should put in their own platoon indents, which could

then be consolidated by the company quartermaster havildar ; by this means Indian officers would be entirely responsible for the clothing, etc., of their own platoons, and would be able to keep an eye on the clothing allowance of their men.

Lewis gun spare parts and accessories should also be checked by them ; in like manner they should carry out kit inspection.

All these matters and others like them are purely part of the platoon administration, and as such, should be carried out solely by the platoon commander.

In the office too, when any question about a sepoy has to be investigated, it might be handed over first to the platoon commander for enquiry and report.

As regards his company, the responsibility of the company commander is this ; to ensure that his company is trained up to the standard and according to the principles laid down by the commanding officer, which make for uniformity in the battalion. He, in his turn, lays down the programme of training for his platoons necessary to bring them up to those standards, and the platoon commanders are responsible for carrying out that training.

It comes to this. In training, the company commander must act as supervisor and guide ; his attention must be concentrated on the training of his Indian officers and senior N.-C. O.'s, by means of lectures, sand model demonstrations, and T. E. W. T. ; also by allowing them full command in the field.

At the same time he must watch everything carefully, criticizing fairly, remembering not to cramp unnecessarily signs of initiative.

In administrative matters the platoon commanders should be given as much responsibility as is compatible with maintaining the efficiency of the company.

The above suggestions, if carried out, may mean a little more work for the company commander ; for the lectures and exercises will have to be carried out after ordinary parade hours. But, it is submitted that, if he gradually enforces them, thus fostering the spirit of initiative and independent action, in the end his work will be diminished. For, in a short time, he should be able to tell his platoon commanders to do a thing, and he will know that it will be carried out without continual watching and explanation on his part.

The writer has started many of the above ideas in his company with very satisfactory results. At first there was a little hesitation and uncertainty amongst the Indian officers, but as soon as they realized that they were being given full responsibility for their platoons, they became quite enthusiastic.

It is realized that there are still a certain number of older Indian officers, whose education and original training may not be up to the standard necessary for the carrying out of these ideas. But the company commander will know how much he can entrust to this type, and it is surprising how much they can do when put to it.

Finally, now that the rules for promotion, as regards education, are in full swing, and the right type of N.-C. O. is obtaining promotion ; it does seem that the importance of giving Indian officers full responsibility for their platoons cannot be over-estimated.

But, this can only be done, if company commanders will stand aside and allow their Indian officers to do their own work.

If only they can bring themselves to do this, the Indian army in general should benefit greatly.

RETIREMENTS AND THE CONDUCT OF REAR GUARDS.

By

LIEUT.-COLONEL G. M. GLYNTON, D. S. O.

The subject of the conduct of rear guard actions in plains country as affecting small forces was the subject of some discussion last winter.

I propose to deal with it purely from the moral and tactical, as apart from the strategic point of view.

From study and investigation we acquire ideas on the various aspects of war.

It is the greatest mistake to imagine you can ever obtain from history, examples which you can follow in more or less exact detail when called upon to act. On the other hand, acquaintance with historical examples furnishes you with food for thought and possibly a resulting idea or conception of what to do and what to avoid, when you are making up your mind how deal with a problem. When a situation presents itself in the field you cannot consult a whole library of books, nor even your Field Service Regulations or Infantry Training. Time is a factor of the first importance, therefore you want to acquire a trained mind, which strengthened and directed by the result of study and thought, acts automatically along the right lines.

This is really what our old friend Verdi de Vernois meant when he said, "to hell with historical examples and principles."

What he meant was, that he had to rely on his trained mind to solve the problem and not to search about in it for examples, etc., which formed parallels. He did not mean to imply that the study of history and works on strategy and tactics was of no use, as the stupid and lazy try to make out as an excuse for their stupidity and laziness.

The problems of modern war, which every day and with every invention become more scientific and complicated, require more and more knowledge to solve them.

Further, mental training is necessary to enable us to see how our own very minute cog fits into the machine. We can then fashion it so that it fits in properly and works smoothly.

A cog of the finest manufacture is useless unless it fits accurately and works without friction.

Retirements and retreats are admitted to be the most difficult operations of war to carry out without undue loss of moral, personnel and material.

As apart from the actual dispositions and tactics of a rear guard, two main difficulties confront us. Firstly, how are we best going to preserve the moral of the troops, so that the retirement shall not develop into a disorderly movement, fraught with excesses and loss of discipline and control. Secondly, if we are in touch with the enemy, how are we going to break away.

History gives us much help as regards the first of these two problems, but is not so helpful regarding the second, though the official account of the retreat from Mons gives us very valuable clues.

Napoleon in his retreat from Russia was subject to a parallel pursuit by Kutsoff, who actually passed ahead of him and subsequently took up positions in front to bar his progress. Everything was against him and the retreat was a disaster. The resulting loss of men and material led to the ultimate ruin of his career.

However, throughout his retreat we mark the great moral effect caused by the devotion of the troops to the person of the Emperor. Further this was heightened by his fortitude and the courage of his Marshals, Ney, Davoust and others. The deeds of the indomitable Ney are almost astounding. But for their efforts in the face of appalling difficulties and dangers, not a man would have escaped from Russia.

In the Peninsular War during Wellington's retreats after the battle of Talavera in 1809 and from Burgos to Ciudad Rodrigo in 1812, the British forces suffered seriously from indiscipline.

In spite of the fact that during his advance Sir John Moore's troops were in an excellent state of discipline, we most of us know how grievously this was lost during the subsequent retreat to Corunna.

The retreat from Mons was marred by no such indiscipline. Although our troops consisted of over half reservists they never became demoralised. These reservists however had done several years colour service and had been subject to strict, though kindly discipline.

We learn thus that the moral effects of a retreat can only be counteracted by the discipline and cohesion gained by thorough training and the confidence of all ranks in their leaders.

Cohesion is obtained by the power of command and influence exercised by officers and N.-C. O's. right down to the lance-corporal or lance-naick, and also that instinctive sense of discipline, the foundation of which is to a large extent built on drill and the exactness with which small duties are carried out in peace. This is lost sight of by many military critics and I am afraid by some officers. They fail to grasp the necessity of precision, smartness, good turn-out and polish which builds up *esprit de corps*.

Can we do better than try to copy the example of our Guards the finest infantry in the world and some of the other superb units in our army.

The temperament of the individuals comprising the troops plays a part also. Composed of thoroughly stolid Englishmen, perhaps we might carry out a retreat with troops, which have received less training, than with Asiatics.

The effects of retirement on indifferently trained Indian troops suffering from a centralised system of command was exemplified by one or two very regrettable examples in the Great War.

Confusion set in and Indian officers and N.-C. O's. not having been trained to accept responsibility, could exercise no control in an emergency. A few British officers are powerless to save such a situation.

However, whatever class of troops we are called on to train, it is imperative to prepare them for and give them every chance in the greatest of all tests. We must therefore in every possible way promote discipline and *esprit de corps* and by means of decentralisation of control, obtain that cohesion, which is the hall-mark of the best troops.

We will now turn to the tactical aspects of the retirement.

If we are in close touch with the enemy the first great difficulty is to effect the break away.

We cannot do better than examine some of the instances given in the official account of the retreat from Mons and other examples of the use of rear guards. From the accounts of these we are able to gather useful details.

Obviously if possible the best time to commence a retreat is during the night or very early morning. When the 1st British Corps retired from the Mons Salient on 24th August, 1914 the main body marched off at 4 a.m. The Germans did not put any troops into motion

in time to molest it except a few small bodies of cavalry, which were quickly dealt with by our infantry and guns. The 2nd Corps whose orders for retirement did not reach them so early could not slip away. Their rear guards in consequence became involved. We will return to this incident later and ascertain how the break away was subsequently effected.

Again on the 25th August, the 1st Corps moved at 2 a.m. and the 2nd Corps a little later. If we follow the subsequent marches we find that during the retreat, in spite of the fact that the troops arrived at their night positions late, they moved off again before daybreak. Even this did not always prevent the rear guards having to hold on to keep the Germans at bay.

The Turks also who are adepts at rear guard actions almost invariably slipped away in the night.

We will now turn to the question of how to extricate troops once engaged. On field days and at training this is perhaps the most difficult manœuvre to practice. The pursuing and attacking troops are not under fire and cannot be checked; umpires are usually of little avail.

A useful instance of this form of action is the engagement at Frameries on the 24th August, 1914.

The 7th Infantry brigade was about Ciply and the 9th Infantry brigade at Frameries. As these brigades moved off, the Germans appeared and launched their infantry in dense waves against the South Lincs and the Lincolns, who were the respective rear guards.

The Germans prepared the way with a hurricane of shell fire. Against Frameries 6 coys. advanced against the Lincolns, but were checked at short range by rapid fire. The enemy support companies then rushed up to the German firing line expecting to carry it on with them. They found only dead and wounded. The bombardment was resumed and after it the Germans entered Frameries, but found the British had slipped off in the meantime.

The personal account of this by a German officer, who was present is most interesting.

In many instances small parties of the rear guard became so committed, that they were unable to extricate themselves. Sometimes these actions were not intended by the command, but took place owing to the failure of orders to reach the troops, as for instance the Cheshires near Audregnies on 24th August, 1914.

On August 27th, 1914, two companies of the Munsters, on rear guard near Etreux, became so involved that, after a magnificent fight under Major Charrier, they were finally over-powered ; but had delayed the pursuit for 6 hours and had held out against six German battalions.

The sacrifice of heroic detachments whether intentional or unintentional is a third method of gaining time to get away, but it is one which should naturally only be used as a last resource.

Since 1914 smoke shell, gas shell, and tanks have been introduced. With smoke shell we might put down a curtain and slip away under cover of it or perhaps prepare a surprise for the enemy behind it, inflict heavy loss on his leading troops, and then move off before those on the other side of the curtain were quite certain what had happened.

Tanks can cover their own retirement by making a cloud, fast moving ones in suitable country could do much to hold up the enemy whilst the other arms moved off.

Gas shell could when the wind was favourable be used to put down a belt of gas, which might delay the enemy considerably.

These devices however seem to depend to a great measure on the wind, the terrain, atmosphere and state of the ground.

Gas was found difficult to use in hot climates, it would not hang low, but owing presumably to the radiation moved up and dispersed.

We see therefore that the break away can be accomplished by night by fire surprise or counterattack, by the devotion of portions of the force, by aid of gas (improbable) smoke and tanks.

We will now turn to investigate the actual tactics.

Firstly, we must consider the modifications, which may be found necessary as regard method, by reason of the introduction of tanks and mechanized artillery.

Whilst we do not wish to run the risk of being over conservative, we must first of all recognise that although methods may change, the principles of war have not, and as far as we know, will not change. Then again we have to be careful to weigh and assess at their true value the views of enthusiasts as regards certain inventions. Lastly, we have to recognise that every introduction of a special kind of invention is followed by an antidote. Gas was followed by masks ;

submarines by seaplanes, depth charges, Q boats etc. ; tanks are being combated by anti-tank guns which have already developed formidable powers.

In suitable country, *i. e.* rolling plains, tanks assisted by mechanized artillery might relieve other arms of much of the work of a rear-guard.

But on the other hand, nalahs, mountainous country, woods, even stumps over 3 ft. high, marshes, towns and villages at present render a terrain unsuitable for tanks. Both sides in such terrain will be compelled to use infantry with wheeled and pack artillery, at any rate for the next few years. No one can say to what extent mechanical devices may not develop. We cannot however afford to base our ideas on flights of fancy, but must work on the state of development which exists. It is also well to pay regard to the form of warfare we are most likely to be called on next to take part in, also the terrain we shall most probably fight over.

For us at the moment this seems perhaps to be war in Afghanistan against Afghans aided by Bolsheviks, or possibly with Afghans against Bolsheviks. India is not usually very up-to-date in its standard of armament, nor probably would mechanicalised devices in very large numbers be suitable for war in Afghanistan.

We get down therefore to the form of war which appears to be visualised in F. S. R., *viz.*, the three arms assisted by a limited number of mechanical devices which will be employed when suitable. F. S. R. gives us the lines to go on. We therefore turn to examine its teachings and principles. We notice that in most cases the mounted troops will have to be employed on the flanks. The next point to be specially noted is that the enemy is to be delayed by taking up successive positions, also that the rearmost party has to be covered as far as possible by the dispositions of the troops, which have already retired from the position.

Now unless we think over the matter perhaps the difficulties attending these manœuvres are not at first apparent.

To carry out such movements with ease, we conjure up in our minds, a succession of ridges the larger ones some two or three miles apart. Each main ridge supplied with successions of convenient underfeatures, which will enable us to take up positions in depth to

cover the various parties retiring. In such ideal country, screened lines of retirement would exist, by which we could pass troops through the lines in rear without masking their fire.

But usually we do not find ground suited in every way to our needs and we have to make the best of what there is.

With large forces the main lines of resistance to be laid out would be further apart than if small forces were engaged.

In the retreat from Mons we find that rear guards usually consisted of about a brigade group.

How did these rear guards act? We find that on the 24th of August 1914, the 4th Guards brigade acting as rear guard to the 2nd Division of 1st Corps retired by successive echelons. The 14th Infantry brigade of the 2nd Corps retired by successive battalions. These two instances in which a hint at formation is given, provide us with perhaps what we may call a general idea on which to base our dispositions. We always must remember that every tactical problem has to be solved in accordance with numerous contributing conditions and perhaps the chief of these is the nature of the ground. At the same time if we have a general idea to go on, our mind is able to grasp better how to solve the problem in relation to the ground.

The best formation so to speak appears to be echelon, because if our troops are disposed more or less in this manner the line or lines in rear can cover the retirement of the line or lines in front.

Further this gives better facilities for protecting our flanks and again those retiring do not mask the fire of those supporting them. We will now consider the matter as affecting a battalion which is in touch with the enemy. Machine-guns of which we require two sections with each of the rearmost battalions should invariably be in the second echelon.

A battalion commander must always keep a reserve in his own hand in order to meet emergencies. I suggest therefore that in retirement on normal plains country the following general idea of formation might govern our dispositions and movements. When we speak of lines we do not mean exact line formations as in a diagram or on a drill parade, but rather to indicate the various areas in which it is desirable to dispose our troops.

Areas also which are shown as parallel would most probably in practice not be actually parallel, but sited to make the best use of the ground.

Companies within their areas would be disposed as dictated by the ground and the local situation. From the general diagram you will observe that the dispositions really alternate between diamond and Y formations. The machine-guns of the second line should be so disposed in their areas so as to cover the fronts of the companies or company, which is actually moving off. As soon as the company with which a pair is operating becomes rear line its machine-guns should then be moved back to the next position to be occupied. The battalion commander would detail the 2nd-in-command or other officer to reconnoitre the ground in rear and indicate the general position of the localities to be occupied. This system has been tried at training with satisfactory results and appears to give a fair chance to the battalion commander to retain control, keep a reserve in hand and ensure that second line covers the front of the rear parties with machine-gun and other fire.

Such a formation could be used either with the battalion alone or for working back to the cover of other battalions, in the event of the rear guard being disposed with two or more main lines of resistance occupied by successive units.

Guns should be moved by bounds always taking care to keep same actually in action.

A last word about the degree of resistance to be offered. Frequently rear guards in retirement have to dispute every inch of ground in order to give the main body time to reorganise, to rest exhausted troops, or owing to delays caused by blocks on the road, etc.

History abounds with such instances, for example, Ney's action in the retreat from Moscow; the 4th Guards brigade at Villers Cotterets on 1st September, 1914.

Unless it is necessary to fight for some specific reason, remember the general idea of the commander is to retire. He won't thank you then for trying to fight heroic actions, which will probably end in his having to extricate you and possibly fight a battle on ground he does not wish to fight on and at a time when he does not wish to fight. In fact you will probably effectively spoil the whole of his tactical and possibly his strategical plan.

SOME EARLY "ARTICLES OF WAR."

BY CAPTAIN H. BULLOCK.

The early codes of military law by which the armies of England and Scotland were governed throw much light on the military life and organization of their time. Probably the two points that most attract the attention are, firstly, the marked resemblance of many of the provisions of military law four or five centuries ago to some of the clauses of our Army Act as it stands to-day; and secondly and in opposition to the foregoing, the striking severity (judged by present day standards) of many of the punishments prescribed by the early Articles of War. In the majority of cases they can indeed only be described as barbarous.

During the period in which most of these codes of military law were issued, England had no standing army; and it was only when armies were raised on the threat or outbreak of hostilities that it became necessary to promulgate regulations for the maintenance of discipline. Such Articles of War were issued either directly by the Crown under the Royal prerogative or sometime by the commander of the forces in the field when his Commission to command authorised him to put forth Articles of War.

Up to about the year 1600 such disciplinary codes were known by the name of "Laws" or "Ordinances" of War, thereafter the designation "Articles" is occasionally found as well: and by the close of the seventeenth century we find them officially styled "Rules and Articles" of War. The name "Articles of War" as applied to our disciplinary codes did not fall into disuse in England until the passing of the *Army Discipline and Regulation Act* in 1879, or in India until the *Indian Army Act* became law on 1st January 1912: whilst it still holds the field in the United States of America. In this article which will only deal with some of the military codes issued many years previous to the passing of the first Mutiny Act in 1689, they will in general be referred to for the sake of uniformity under their best known title *viz.*, "Articles of War."

What is generally described as the earliest English code of military law is the Proclamation issued by Richard I on his way to the

third Crusade in 1189, for the better enforcement of discipline amongst the troops on board ship. From its slight nature it perhaps hardly deserves to take rank with the more comprehensive later Articles of War, but its very much earlier date gives it a claim to notice, and as it is short it is quoted here in full :—

RICHARD, by the grace of God, king of England, duke of Normandy and Aquitania and Count of Andegavia. To all his men about to go to sea to Jerusalem, greeting. Know ye, that by the common council of good men, we have made the underwritten ordinances. He who kills a man on shipboard, shall be bound to the dead man, and thrown into the sea ; if the man is killed on shore, the slayer shall be bound to the dead body, and buried with it. Anyone convicted by lawful witnesses of having drawn his knife to strike another, or who shall have drawn blood of him, to lose his hand. If he shall have only struck with the palm of his hand, without drawing blood, he shall be thrice ducked in the sea. Anyone who shall reproach, abuse or curse his companion shall give him as many ounces of silver as times he has abused him. Anyone convicted of theft shall be shorn like a champion,* boiling pitch shall be poured on his head, and down of feathers shaken over it, that he may be known ; and he shall be set on shore at the first land at which the ship touches.

Witness myself at Chinon.

No code for a period of some two hundred years after this has been preserved, so far as the writer is aware ; and the next “ Statutes and Ordinances of War ” which have survived are those made by Richard II at Durham on the 17th July 1385. Of these three versions, differing very slightly from one another, may be found in the British Museum, and according to Grose (*Military Antiquities*, 1786-8, ii, 60) there is also a copy at the College of Arms. On recent enquiry at that institution however it was stated this could not now be traced, though it may still lie hidden amongst their extensive collections of ancient manuscripts. The code of 1385 contains 26 articles, and has been printed by Grose in his above-mentioned work. It is reprinted as an appendix to this article, with the spelling and punctuation modernised and flavoured though it is by the feudal spirit which regulated the conditions of service in the army of the time, repays study as the first authentic forbear of our Army Act, many of the

*Champions hired to fight legal duels had their hair clipped close to their heads.

provisions of which it foreshadows. For, indeed, the whole administration of military law at that period was bound up with the law of chivalry, and both were dictated and decided by the Court of the Constable and Marshal, or as it was often called, the Court of Chivalry.

At the head of this tribunal was the Lord High Constable, usually aided by the Earl Marshal, three or more doctors of the Civil Law, and a clerk of the court or judge-marshal as he was known—the fore-runner of our modern judge-advocate.

The court exercised plenary jurisdiction over all military offences, as also over offences committed by civilians accompanying the forces in the field. Apart from these military functions, it had power to adjudicate in certain matters of chivalry, and also in slander cases in which parties to the suit were of noble birth. Cases of the latter classes were heard by the Court of the Marshal as late as the reign of Queen Anne, by which time all other jurisdiction of the court military or otherwise had long since disappeared.

In 1521 the office of constable of the realm lapsed on the attainder of Edward Duke of Buckingham, the then holder ; and since that it has only been revived for particular occasions and for limited periods. The court's title was changed in consequence from the "the Court of the Constable and Marshal" to the Marshal's Court" from which the transition to the present name of "Court-Martial" was simple.

It appears that the Constable presided only when slanders and criminal offences against the common laws were to be heard, and that when the court had solely military delinquents before it, or sat as a court of honour, the Marshal acted as president. In the reign of Henry VIII, the Marshal was required to hold court two days in the week, Monday and Thursday.

Ever since about 1500 the chief officer who carried into execution the orders of a court-martial has been known as the Provost Marshal ; his assistants in those days included goalers, executioners, beadles and tinstaves ; and a writer of 1622, Francis Markham describes his equipment as including "All manner of tortures, such as Gyves, Shackles, Bolts, Chaines, Bilbowes, Manacles, Whips, and the like" and "Engins fitting to the judgment of the Marshal's Court. Gallowses, Gybbetts, Scaffolds, Pillories, Stocks, or Strappadoes."*

*The strappado was an instrument of punishment whereby the offender was swung into the air by means of a strap fastened round his waist.

To return to the Articles of War themselves. The code of 1385 was followed by a much more comprehensive one, of which several versions exist, made between 1415 and 1419 by Henry V. More than one of these versions have been printed in modern years, and may be found in Sir Harris Nicholas's *Battle of Agincourt* (3rd edition 1833); *The Black Book of the Admiralty* a finely illuminated manuscript which is now open to public inspection in the Record Office Museum and which was printed in full under the editorship of Sir Travers Twiss in the Rolls Series; or in Grose's *Military Antiquities*. Though lengthier than the code of 1385, they much resemble it and are very comprehensive. A short code supplementary to these Articles of War was issued by the Earl of Shrewsbury when in command of some detached operations, but many of its provisions are perhaps more in the nature of standing orders than disciplinary regulations.

The first printed forerunner of our Manual of Military Law was published in 1544, and contained Articles of War drawn up shortly before the invasion of France by Henry VIII in 1513 but not printed at the time. The book, in "black letter," is a quarto of only ten pages, (would that the present book were as short), and is very rare, even the British Museum not possessing a perfect copy. Grose however prints the Articles *in extenso* in his work. They do not differ very greatly from their predecessors.

These in their turn were followed, first, by a proclamation made by the Earl of Rutland, commanding the expedition against the Scots at Dunglas, on 3rd July, 1549 (this only contained four articles); next by a printed code of Regulations to be observed by the English Army marching to besiege Edinburgh Castle in 1573 (a single sheet of paper); and then by a ten-page printed booklet issued by Lord Essex in 1574 entitled "Lawes and orders of Warre, established for the good conduct of the service in Ireland."

In 1586 there were printed the Articles of War issued by Robert Earl of Leicester, "the Queen's General of her Armie and forces in the Lowe Countries," and after this date the successive codes are of such frequent occurrence as to preclude their deserving individual mention here. The type of Articles of War evolved from them will be seen from the following code, to which the date 1625 may be assigned with a reasonable degree of probability, and which is believed never before to have been published *in extenso*. It is taken from a manus-

cript at the Public Record Office (State Papers, *Domestic, Charles I, 13).

Martial Lawes ordained and instituted by his Matie with the advice of the Counsell of warr for the gouverment and good ordering of the troops in this Kingdome, either being in Army or in Regimentes, or in single companies to punish the malitious and wicked, and to defende the innocent according to the customs of all well gouverned Kingdomes.

(1) Hee that blasphemeth, or is knowne to be a common swearer, to have his tounge bored through with a hot iron.

(2) Hee that is knowne to be a drunckard, is first to be admonished, and for the next to be put in prison, and to be kept there at bread and water seaven daies. And his meanes that while that is overplus, to be bestowed on some sick or poore soldior.

(3) That if anie soldior be druncke on hos garde, or on the day he should exercise, if he be an officer he is to be easseered; if a Soldior, he is to be seaven daies at bread and water, as is before saide. And if that doe no good, he is to have the Strappadoe either more or lesse.

(4) That if any shall absent himself from the Church, to have the same punishment of bread and water.

(5) That if anie soldior or officer doe abose either man or woman, the party grieved shall goe to the Officer yt Commands in Chief, let him be Captaine or more than a Captaine, or Lieutenant or Ensigne, if none of these then to the next Justice of the Peace if the cause require, and desire him to have him forthcoming, and to write to the officer of the offender, to let him knowe of the offence, then that

*That volume contains two copies of the Articles, Fols. 41 and 42. The transcript here printed is taken from fol. 42, though the two versions do not vary materially.

There is no internal evidence of the date of the MS. which is marked in pencil "1625," but an important clue is found in Clode's *Military and Martial Law*, pp. 27-28, where extracts from a code of 1629 are given. For further particulars of this code of 1629 Clode refers the reader to his *Military Forces of the Crown*, Vol. I, p. 18, but on turning to that page we find that Articles of War of 1625 are referred to.

On comparing the extracts from the alleged 1629 code with the Articles printed below, it is evident that they are identical, and that the date 1629 given in *Military and Martial Law* is a printer's error, the real date as given in *Military Forces of the Crown* being 1625.

The Articles have been numbered to facilitate reference.

It is possible that they were promulgated in connexion with the abortive expedition to Cadiz in 1625, under Sir Edward Cecil.

Chief officer must crave Justice of a Counsell of warr, according to the Offence, either to aske the partie forgivenessse, or to punish it with imprisonmt, or the Strappadoe, or wth more or lesse as the fault requireth.

(6) If anie Soldior doe shed bloud, or maime anie of his fellowes, or anie other that is no Soldior, hee must bee more or lesse punished till the party offended be satisfied according to the punishment before named, and at the *direction of the Officer, if there be no marshal's Court in that place, he must be brought where there is one.

(7) If anie Soldior doe force anie woman or maide he is to suffer death.

(8) If he steale anie thing that is of note he is to suffer death, if of small value hee must be more or lesse punished, and imprisoned vntill hee make satisfaccion, and to stande wth a paper on his breast, where there shalbe written the Offence, and if it be done in a Market Towne, or nigh, then to have it on a Market day.

(9) That if anie Soldior doe give anie hinderance to Market Folkes passage to be severely punished, but if they take anie thing from them, to be punished with death wthout mercie.

(10) That no Soldior be seene wthout his sworde, and if he will take no warning then to be put in prison.

(11) That no Soldior be found a mile from his Garrison or lodging wthout leave of his Officer in wrying upon paine of imprisonment.

(12) If a Soldior have leave and doe not retourne wthin the tyme limited, wthout some sufficient excuse, and then to bring some sufficient testimonie of it, he must be punished as before.

(13) If anie Soldior doe sell anie part of his Cloathes or Armes, to one another, or to anie other hee shall have the aforesaid punishment, and the party that doth receive it shall loose his money, for they are not his but his Mates.

(14) That if anie Officer of a Towne shall see a Soldior passe without asking him were his passe and foreloffe is, and if the Soldior have no passe, then is hee to send him from Constable to Constable till he come to his Officer. If he doe not his dutie herein to his Maiestie he must be presented to the Lordes.

(15) That anie Soldior that doth strike his Officer, or any other Officer, or doth but make shewe of it, as by laying his hands vpon his sworde, or give him ill language, shall suffer death wthout mercie.

*"discretion" given in other copy.

(16) That if anie Soldior doe vse anie vncimle speeches either against his Maiesty or anie other person in autoritie or anie other waies, is to be punished wthout mercie.

(17) That no man shall goe of his garde wthout leave of his chief officer that there commandeth, wthout due punishment, such as have bene fore named.

(18) That no Sentinell be founde sleeping vpon his garde vpon paine of death.

(19) All other disorders whatsoever, are to be punished, as these formerly mentioned, though not formerly nominated.

(20) That all Soldiors and Officers, doe take an Oath as the Custome is in all Countries, to be faithful to his Maties, service, both in thought worde and deede, and not to conceale anie thing that they shall heare or see, that is not for his Maties, service and honor, and to obey all his Commandementes.

(21) That there be autoritie given to anie three or more of the Commissioners, to call a Marshall Courte, and sit in Commission, to heare, Judge, and determine anie fact done by Soldiors, but to have no power to put to death, till they have advertised the Generall, that shall have autoritie of life and death, for such troupes as he shall commande.

(22) To have in every Market place a Gibbet, and Strappadoe, for the sight of such a remembrancer, will doe good in a wicked mynde.

(23) That there be a Provost appointed in every Regiment, when the Regiments shall be full, and a prison ordained Soldiors a parte from anie other.

(24) The Provost must have a horse allowed him, and some Soldiors to attende him, and all the rest commanded to obey him, and assist him, otherwise the service will suffer, for hee is but one man, and must correct manie, and therefore cannot be beloved. And hee must be riding from one Garrison to another to see that the Soldiors doe no outrage not scath about in the Countrie.

And these Orders are helde in all Countries where true discipline is esteemed.

APPENDIX.

These are the Statutes, Ordinances and Customs to be observed in the Army, ordained and made by good consultation and deliberation of our most Excellent Lord the King Richard ; John Duke of Lancaster, Seneschall of England ; Thomas Earl of Essex and Buckingham, Constable of England ; and Thomas de Mowbray Earl of Nottingham, Marshall of England ; and other Lords, Earls, Barons, Banneretes, and experienced knights, whom they have thought proper to call unto them ; then being at Durham the 17th day of the month of July, in the ninth year of the reign of our Lord the King Richard II.

I Firstly.—That all manner of persons, of what nation, state, or condition they may be, shall be obedient to our lord the king, and to his constable and marshal, under penalty of everything they can forfeit in body and goods.

II Item.—That none be so hardy as to touch the body of our lord, or the vessel in which it is contained, under pain of being drawn, hanged and beheaded.

III Item.—That none be so hardy (as) to rob and pillage the church, nor to destroy any man belonging to Holy Church, religious or otherwise, nor any woman, nor to take them prisoners, if not bearing arms ; nor to force any woman, upon pain of being hanged.

IV Item.—That none be so hard (as) to go before* or otherwise than in the battail† to which he belongs, under the banner or pennon of his lord or master, except the herbergers, whose names shall be given in by the lords or masters to our constable the marshal, upon pain of losing their horses.

V Item.—That no one take quarters otherwise than by the assignment of the constable and marshal and the herbergers ; and that after the quarters are assigned and delivered, let no one be so hardy as to remove himself, or quit his quarters, on any account whatsoever under pain of forfeiture of horse and armour, and his body to be in arrest, and at the king's will.

VI Item.—That every one be obedient to his captain, and perform watch and ward, forage, and all other things belonging to his duty, under penalty of losing his armour, and his body being in arrest to

*Advance.

†Unit.

the marshal, till he shall have made his peace with his lord or master, according to the award of the court.

VII Item.—That no one be so hardy as to rob or pillage another of money, victuals, provisions, forage or any other thing, on pain of losing his head : nor shall anyone take any victuals, merchandise, or any other thing whatsoever, brought for the refreshment of the army, under the same penalty ; and anyone who shall give the name of such robbers and pillagers to the constable and marshal shall have twenty nobles for his labour.

VIII Item.—No one shall make a riot or contention in the army for debate of arms, prisoners, lodgings, or any other thing whatsoever, nor cause any party or assembly of persons, under pain (the principals as well as the parties) of losing their horses and armour, and having their bodies in arrest at the king's will, and if it (be) a boy or page he shall lose his left ear. Any person conceiving himself aggrieved shall make known his grievance to the constable, and right shall be done him.

IX Item.—That no one be so hardy as to make a contention or debate in the army on account of any grudge respecting time past or for anything to come ; if in such contest or debate anyone shall be slain those who were the occasion shall be hanged ; and if anyone shall proclaim his own name, or that of his lord or master, so as to cause a rising of the people, whereby any affray might happen in the army, he who made the proclamation shall be hanged.

X Item.—That no one be so hardy as to cry “ havok ” *under pain of losing his head, and that he or they that shall be the beginners of the said cry shall likewise be beheaded, and their bodies afterwards hanged up by the arms.

XI Item.—That no one make the cry called Mounte † or any other whatsoever in the army, on account of the great danger that may thereby happen to the whole army, which God forbid ; and that on pain, if he be a man at arms, or archer on horseback, of losing his best horse, and if he be an archer on foot or boy, he shall have his left ear cut off.

XII Item.—If in any engagement whatsoever an enemy shall be beat down to the earth, and he who shall have thus thrown him down

*The cry for the troops to disperse and pillage.

†Possibly the “alarm,” or “to horse.”

shall go forwards in the pursuit, and any other shall come afterwards, and shall take the faith or parole of the said enemy, he shall have half of the said prisoner, and he who overthrew him the other half ; but he who received his parole shall have the keeping of him, giving security to his partner.

XIII Item.—If any one take a prisoner, and another join him, demanding a part, threatening that otherwise he will kill him the (prisoner), he shall have no part, although a share be granted him; and if he kills the said prisoner, he shall be in arrest to the marshal, without being delivered till he has satisfied the party, and his horses and armour shall be forfeited to the constable.

XIV Item.—That no man go out on an expedition, unless with the knowledge and by the permission of the chieftain of the battail (unit) in which he is, so that they may be able to succour him should occasion require it, on pain of losing horse and armour.

XV Item.—That for no news or affray whatsoever that may happen in the army, shall anyone put himself in disarray in his battail (i. e., break the ranks), whether on an excursion or in quarters, unless by assignment of his chieftain, under pain of losing horse and armour.

XVI Item.—That everyone pay to his lord or master, the third part of all manner of gains of arms, herein are included those who do not receive pay, but only have the benefit of quarters, under the banner or pennon of arms of a captain.

XVII Item.—That no one be so hardy as to raise a banner or pennon of St. George or any other, to draw together the people out of the army, to go to any place whatsoever, under pain that those who thus make themselves captains shall be drawn and hanged, and those who follow them be beheaded, and all their goods and heritages forfeited to the king.

XVIII Item.—That every man, of what estate, condition or nation he may be, so (long as) he be of our party, shall bear a large sign of the arms of St. George before, and another behind, upon peril that if he be hurt or slain in default thereof, he who shall hurt or slay him shall suffer no penalty for it ; and that no enemy shall bear the said sign of St. George, unless he be a prisoner, upon pain of death.

XIX Item.—If anyone shall take a prisoner, as soon as he comes to the army, he shall bring him to his captain or master, on pain of losing his part to his said captain or master ; and that his said captain

or master shall bring him to our lord the king, constable or marshal as soon as he well can, without taking him elsewhere, in order that they may examine him concerning news and intelligence of the enemy, under pain of losing his third to him who may first make it known to the constable or marshal; and that everyone shall guard, or cause to be guarded by his soldiers, his said prisoner, that he may not ride about at large in the army, nor shall suffer him to be at large in his quarters without having a guard over him, lest he espy the secrets of the army, under pain of losing his said prisoner; reserving to his said lord the third of the whole, if there is not a partner in the offence; and the second part to him that shall first take him; and the third part to the constable. On the like pain, and also of his body being in arrest and at the king's will, he shall not suffer his said prisoner to go out of the army for his ransom, nor for any other cause, without leave of the king, constable and marshal, or the commander of the battail (unit) in which he is.

XX Item.—That every one shall well and truly perform his watch in the army, and with the number of men at arms and archers as is assigned him, and that he shall remain the full limited term, unless by the order or permission of him before whom the watch is made, on pain of having his head cut off.

XXI Item.—That no one shall give passports or safe conduct to a prisoner nor any other, nor leave to any enemy to come into the army, on pain of forfeiture of all his goods to the king, and his body in arrest and at his will; except our Lord the King, Monseigneur de Lancaster, Seneschal, the constable and marshal: and that no one be so hardy as to violate the safe conduct of our lord the king, upon pain of being drawn and hanged, and his goods and heritage forfeited to the king; nor to infringe the safe conducts of our said Lord of Lancaster, Seneschal, constable and marshal, upon pain of being beheaded.

XXII Item.—If anyone takes a prisoner, he shall take his faith, and also his bacinet or gauntlet, to be a pledge and in sign that he is so taken, or he shall leave him under the guard of some of his soldiers, under pain, that, if he takes him and does not do as is here directed, and another comes afterwards, and takes him from him (if not under a guard), as is said, his bacinet or right gauntlet in pledge, he shall have the prisoner, though the first had taken his faith.

XXIII Item.—That no one be so hardy (as) to retain the servant of another, who has covenanted for the expedition, whether soldier, men at arms, archer, page or boy, after he shall have been challenged by his master, under pain that his body shall be in arrest till he shall have made satisfaction to the party complaining by award of the court, and his horses and armour forfeited to the constable.

XXIV Item.—That no one be so hardy to go for forage before the lords and others, whosoever they may be, who mark out or assign the places for the foragers : if it is a man at arms, he shall lose his horses and harness to the constable, and his body shall be arrested by the marshal ; and if it is a valet or boy, he shall have his left ear cut off.

XXV Item.—That none be so hardy as to quarter himself otherwise than by the assignment of the herbergers, who are authorised to distribute quarters, under like penalty.

XXVI Item.—That every lord whatsoever (shall) cause to be delivered to the constable and marshal, the names of their herbergers, under penalty that if anyone goes forward and takes quarters, and his name is not delivered into the constable and marshal, he shall lose his horses and armour.

THE COLOURS OF ARMIES.

What are the Colours of Armies? Where are they defined? What do they signify?

In the words of Grose and Carlyle, "Their dignity and estimation in all ages hath been held most venerable and worthy. They are indeed the symbol of honour. They may not actually lead to victory but they inspire the soldier to know how to fight and to die. They are received with honour on parade, even though faded and in rags. We see in flags the divine idea of duty, of heroic daring, in some instances of freedom and of right. Every soldier as soon as he is enrolled and hath received either pay or impress takes a solemn oath to be faithful to his colours, to attend them carefully, and to defend them valiantly, and upon all summons of the trumpet or drum or command of his officers, to repair to them wheresoever they may be lodged, stand, or be, and not to depart or straggle from them until he receives orders."

The actual term "colours" may be explained by the belief that the banners of the ancient Jews were distinguished by particular colours, the colours being analogous to those of the precious stones in the breastplate of the High Priest, while Markham in his "Soldier's Accidence" distinguished between metals such as yellow and white, figuring gold and silver, and seven "proper colours" viz.—black, blue, red, green, purple, turmeric, and ermine, each colour having its own significance.

For instance, "blue" signified "constancy." Hence also the origin of the expression "true colours," for, "whereas black, blue, etc., etc., were "true colours," orange, tawny, etc., etc., were "bastard" or "dishonourable colours," and signified "craft," "pride," etc., etc."

From the earliest times standards and banners were borne by nations and carried in battle.

There are representations of standards in the oldest bas-reliefs of Egypt, indeed, the invention of standards is attributed to the Egyptians, as, according to Diodorus, the Egyptian standards consisted generally of the figures of sacred animals borne on the end of a staff or spear.

The Egyptian standards also bore various other figures of* animals such as lizards, beetles and birds, etc.

Mention is also made of banners in the Old Testament as early as the time of Moses.

The Romans again had various forms of standards, the Eagle, according to Pliny, being the first and chief military ensign, whilst the Dragon, an ensign of the Parthians, was adopted by the Normans as the standard of their cohorts and came from them to the Western Empire, being borne by Utor Pendragon, King of the Britons, the early Kings of England, and the Dukes of Normandy.

The golden Dragon was, in the eighth century, the standard of Wessex. It was borne on a pole by King Harold, and was borne by Henry VII, at Bosworth Field, whilst, at the Battle of the Standard in 1138, the staff of the English Standard was in the form of a mast of a ship, having a silver pyx at the top, containing the Host and bearing the three sacred banners dedicated respectively to St. Peter, St. John of Beverly and St. Wilfred of Ripon, the whole being fastened like the standards of the Persians and Assyrians to a wheeled vehicle.

The Saracens are said to have been the first to use the *waving* flag, whilst, in an engagement with the Saracens near Acre in 1191, the banner of Richard I was borne aloft on a machine consisting of a very long beam, like the mast of a ship, and placed upon four wheels in a frame very solidly fastened together, and bound with iron so that it seemed incapable of yielding either to sword, axe or fire, affixed to the top being the Royal flag or banner. A selected band of soldiers was selected to protect it, and it served not only as a rallying point, but as a place of refuge for the sick, the wounded, and even for Princes and illustrious men tired out in the fighting. It was called a "standard" because it "stood fast" as a sign to all, and it was on four wheels so that it could be brought forward as the enemy yielded, or drawn back when he pressed on.

Standards, guerdons, and banners, were indeed used generally in large armies to distinguish the troops of different nations and provinces, or of different leaders, so that the Princes or Commanders-in-Chief might be able to discriminate as to the behaviour of corps or leaders, besides serving as rallying points.

*Compare the "White Elephant" of Siam, the "Peacock" of Burmah, and the "Dragon" of China.

And, as the standard was regarded with reverence by all nations, so was the standard-bearer selected for his strength and courage.

“For” says, Grose, “when they” (the colours) “perish with disgrace, the soldier is in hazzard of ruin, for if this loss result either from cowardice or misgovernment it hath been the death blow to all that survive, and the best mercy that can be expected is, that every soldier shall draw a lot for his life (file by file), so that one out of every file perisheth for it.”

There is again the “dignity of the Ensign” which explains primarily how the old rank of Ensign, the officer who carried the Ensign, came into being.

“The Ensign indeed had the right to be lodged before any other officer, and to be lodged in the best, most spacious, and most secure quarter, and so much was the honour of the colours upheld, that it was ruled that an officer who flew his colours together with those of equal rank, and who, when peace was declared, declined promotion, preferring to adhere to his original colours and remain in *statu quo prius*, should when re-commissioned have priority of place. In fact, “his ensign flew before the others ever after.”

In early times indeed the bearer of a banner was a most important personage. In 1361 Edward III granted Sir Guy de Bryon 200 marks for life for having discreetly borne the King’s banners at the Siege of Calais, whilst in France the office of the custodian of the national banner, the Oriflamme, was hereditary.

In all countries the duty of the Standard-bearers was to defend their charge, if necessary, to the death.

For example, in the Zulu War of 1878 the bearers of the colours of the 24th Regiment, Lieutenants Melville and Coghill, attacked by overwhelming numbers, died bravely, revolvers in hand, the colours being found near their bodies, whilst in the Crimea, at the Alma, Sergeant O’Connor of the 23rd Regiment, though wounded, seized the colours, after two lieutenants carrying them had been successively shot, held them aloft, rallied the regiment, and gained not only the Victoria Cross but his commission and became Colonel of the Regiment.

Napoleon established two subaltern officers as special guardians of the Eagle.

"Ils n'avaient d'autres armes," said Napoleon, "que plusieurs paires de pistolets, d'autre emploi que de veiller froidement à bruler le cerveau de celui qui avancerait pour saisir l'aigle."

With us, however, valuable lives are no longer lost in defending the colours from the enemy, but, before regiments go into the field, their colours are placed in safe-keeping, the rites which attend the ceremony being of the utmost solemnity, such as prevail at the consecration of colours, a practice introduced by the early Popes, and which still continues.

In 1751 in place of the Colonels' and Lieutenant-Colonels' flags with their gaudy and ever varying private armorial devices, emblematical of but little, regimental numbers were substituted being simple in form and easily recognized, and giving a rallying point in the minds of soldiers for decade after decade, and creating the invaluable *esprit de corps*, intensified by the placing on the colours of battle honours, the first of these being "Emsdorf" given to the 15th Light Dragoons in 1768.

The numbering of regiments has more recently given way to territorial designations for recruiting and linking purposes.

It would be quite invidious to compare the battle honours of any regiment with those of any other regiment. Such may be found in detail in "Battle Honours of the British Army," by "Norman," which mentions both those of British and Indian Regiments.

As regards our National Flag, it is said that at the Siege of Antioch in about 1120, during the Crusades, our soldiers being weary, began to be disheartened, when suddenly St. George among other Saints descended from the mountains "with an infinite number of Heavenly Soldiers" and the enemy was defeated with the loss of 100,000 horse and innumerable foot, to say nothing of infinite stores and ammunitions. The great victory of Antioch led to the recovery of Jerusalem, and, during the Crusades, England assumed St. George as her patron saint.

Throughout the Middle Ages the war-cry of the English was "St. George! St. George!" and, on St. George's Day in 1350, Edward III of England instituted the Order of the Garter.

The Cross of St. George was worn as a badge over his armour by every English soldier of the fourteenth century.

The St. George's banner was the flag of battle, and was indeed the flag under which the great seamen of Elizabeth's reign traded, explored, and fought, and to-day the White Ensign of the Navy is the St. George's banner, bearing, in addition, the Union, while the Union itself bears the Red Cross of the Warrior Saint.

On the union of the two crosses at the accession of James VI of Scotland to the English throne, the Cross of St. Andrew was combined with that of St. George, and such was confirmed in the time of Queen Anne, who, in a proclamation of 28th July, 1707, required that merchant vessels should fly a red flag, not a *Union Jack described in a "canton" at the upper corner thereof, next to the staff, while the Union Flag, as before, was reserved for the Royal Navy, this proclamation being the first in which the term "Union Jack" was officially used.

On the Union of Ireland with Great Britain in 1801 the Cross of St. Patrick was added.

No article on this subject would be complete did it omit to mention the famous "Oriflamme" of France, the sacred banner of the Abbey of St. Denis, a large red banner, mounted on a gilt staff, with its loose and cut to three tongues resembling flames, the last occasion of its appearance in battle being at Agincourt, or the *fleur-de-lis*, the lilies on which were said to have been miraculously changed from golden toads the night before the Battle of Tolbise in 496, the same becoming later the "bees" of Napoleon. The *fleur-de-lis* had always been held in high esteem by the French and it is stated that when Napoleon was at Auch in Armagnac and heard that in order not to cause him offence, the *fleur-de-lis* on the Cathedral windows had been covered over, he exclaimed—

"What, the *fleur-de-lis*? Uncover them this moment. During eight centuries they guided the French to glory as my Eagles do now, and they must always be dear to France and be held in reverence by her true children.

The tricolour banner replaced the *fleur-de-lis* after the French Revolution.

Perhaps one of the most striking standards in history is the one presented by Napoleon I to his guards at Elba before he invaded

*The Union Jack derived its name from the upright spar from which it is flown on a ship's bowsprit or bow, as distinguishing it from the St. George's Jack which it replaced.

France, being the tricolour of France composed of the richest silk, with the ornaments elaborately embroidered in silver. It bore the Imperial Crown with the letter "N," and the Eagle, in each of the blue and red portions, with the Imperial "bees," and over all the inscription—

"L' Empereur Napoleon a la garde nationale de l'île d'Elba."

To the staff, the top of which was surmounted by a golden eagle, was suspended a tricolour sash also richly embroidered in silver.

Finally, in India, may be noted the flag of the Viceroy, being the Union, with the central badge of the Star of India, surmounted by a crown, the late "Indian Marine" flying the blue ensign with the Star of India in the flag.

N. B.—*Authorities made use of with the very kind permission of both the Authors and Publishers of the same in preparing this article:—*

- (a) "Flags : Some Account of their History and Uses," by H. MacGeorge. (Blackie & Son).
- (b) "Flags" of the World, " by W. J. Gordon. (Frederick Warne & Co., London).
- (c) "Battle Honours of the British Army," by C. B. Norman. (John Murray, Albermarle Street, London).
- (d) "Standards and Colours of the Army," by Samuel Milne Milne. (Printed for the Subscribers by Goodal & Suddick).
- (e) "British Flags, Etc.," by W. G. Perrin. (Cambridge University Press).
- (f) "The Flags of our Fighting Army," by Stanley C. Johnson. (A. C. Black, Ltd., London, W. I.).
- (g) "Service Medals," by Lt.-Commander H. Tafrell Dorling. R. N. (George Philip & Son, Ltd., London).
- (h) "The British Army—Its Regimental Records, Etc.," by Major H. Lawrence-Archer. (George Bell & Sons, London).

PROGRESSIVE TRAINING.

A SUGGESTION

By

CAPT. H. R. POWER.

1. There are probably no regimental officers, who have not found during the last year or two that their professional year has become a race against time, in which an attempt is made to attend to all branches of their men's training, but in which owing to the vastly increased syllabus of training, which the lessons of the war have rendered imperative, it is found to be quite impossible not to neglect entirely certain subjects and slur over others.

2. This fact is fully realised by many officers who have proposed various remedies, among which the most important are :—

- (a) The training cycle to be made biennial.
- (b) A curtailment of weapon training.
- (c) A simplification and in effect abolition of close order drill.

3. In my opinion the real solution lies not in curtailment or abolition of one subject, nor in a prolongation of the training cycle, but in a revision of our methods, which will make the training more progressive.

4. On the 1st April each year, and sometimes even earlier, machinery is set in motion to carry out individual training, and October 15th is aimed at as the date on which it will be completed. In the course of these seven months each man will have classified in either Table " R " or Table " L " or the annual machine gun course, and will have been refreshed in drill, etc.

There then remain five months for the more advanced forms of training, which develop and expand the instruction given to the individual.

5. Such in broad outline is the programme, which every commanding officer maps out for himself at the beginning of each training cycle, and were this adhered to in combination with a proper understanding of the field covered by weapon training and drill, the necessity for any revision would disappear.

6. There are, however, two reasons which militate against the completion of such a programme.

(i) The disorganizing effect of leave and furlough, inoculations, guards and duties, illness, etc.

(ii) The attaching of undue importance to one branch of training, to the detriment of others.

Of these (i) is a constant factor which must be dealt with as well as can be, and it is not within the sphere of this paper to suggest a remedy.

I propose to consider (ii) and by examining the causes to find a solution to our difficulties.

7. Before deciding how much time is to be devoted to each subject it is necessary first of all to realise that all forms of training are inter-dependent and that no one form is more profitable than another.

Good results in weapon training are dependent on drill which inculcates discipline and stimulates moral, without which no soldiering is possible. But drill is not more profitable, because by itself it can achieve nothing, the use of weapons being the means by which the enemy is attacked and his blows parried. On the other hand neither is weapon training more profitable, because it too can achieve nothing by itself, drill providing the means by which men are enabled to make use of weapons to the best advantage.

Thus drill and weapon training are of equal importance and both must receive proportionate attention.

8. Now there exists in the army to-day a system by which monthly progress reports in weapon training are submitted by every unit; in addition there is a yearly report giving the results of classification and a rough outline of battle practices carried out. Further a column is provided in the annual review report for a display of the battalion's average in the various tables.

No such method of reporting progress in drill exists for the very good reason that its results though visible are certainly not capable of being reduced to figures.

The outcome of attaching such apparently enormous importance to classification figures, is that an idea has become prevalent that nothing else matters except a satisfactory musketry return; and all efforts are directed towards the attainment of this.

The consequence is that drill and advanced weapon training are neglected and more often than not a large slice of the collective training period is appropriated in an insane belief that statistics are irrefutable evidence of efficiency.

9. It is a very great mistake to imagine that because a man can use his rifle correctly and accurately on the range, he will also handle it with confidence and efficiency in the field.

To shoot at a well defined target from a comfortable firing-point at a known range is a very different matter to firing at estimated ranges at ill-defined service targets from any position that the conformation of the ground, necessity for cover and a field of fire, will allow.

No person is so foolish as to suppose that a squad of recruits who are drill perfect on the square, would without any further training acquit themselves creditably in the field. At that stage in their training, they have had no experience in applying the principles they have learnt, and will be of no value to the army until they have applied them and had continual practice.

And yet year after year we are content to make our trained soldiers' weapon perfect on the range, without ever giving them sufficient opportunity of applying their knowledge of small arms to service conditions.

So insistent is the demand for figures and the visible results which can be shown on paper, that fire discipline, control and direction, and their application are to them almost as a closed book.

10. My contention then is that there has crept in a statistical system of judging efficiency, which annually strangles training to such an extent that there is grave danger of the army becoming inefficient, and which must be abolished or so modified, that the comparative unimportance of figures is established.

11. Under the present system it is essential that preliminary position drill on the parade ground should precede the actual range work of the annual course, so that the best results may be obtained. If statistics counted for nothing, it would be possible to devote to other branches of training the six or seven days spent on this and in this connection it must be remembered that in stations,

where duties are heavy, a man spends his individual training season chiefly in—

- (a) Classifying in one or other of the weapon tables and
- (b) doing duties while others classify.

So that the saving of six or seven days is of more importance than would appear at first sight.

12. I do not consider that as a result of abolishing the present system of position drills there would be any serious loss of accuracy in shooting for the reason that:—

Once a man has learnt as a recruit how to aim, how to hold his rifle, and how to press the trigger, his success as a rifle shot will depend on his temperament, his physique and his health, and that periodical practice in shooting is all that he requires to maintain his proficiency.

Moreover, if the present system of devoting upwards of a week to preliminary preparation on the square before firing on the range is essential, the conclusion is that at no time during the year is an individual able to shoot his best, except during the short period of preparation and actual firing of his annual course; and since it is not possible to give men this facility prior to taking part in a fight, it would appear that time is wasted in producing results which are incapable of reproduction in the field.

A saving of time can therefore be effected by abolishing preliminary position drills as they exist at present for the trained soldiers, and introducing them into the individual training programme, as I shall show later.

13. The number of practices fired in Table " R " by each individual varies in accordance with his classification in the previous year, with the result that marksmen and 1st class shots fire 12 and spend 6 days on the range, whereas 2nd and 3rd fire 26, which occupy 12 days.

I consider that 12 practices occupying 6 days is sufficient for all riflemen other than 3rd class shots, for the reason that, whereas the good shot will remain good because physically and temperamentally he is capable of it, the indifferent shot will never show any marked improvement for physical or temperamental reasons; and that, although extra instruction in one year may enable

the 2nd class shot to record better figures than in the previous year, the actual improvement is so small as not to justify the time devoted to it.

Further it is open to question whether the fire effect in war obtained by marksmen and 1st class shots is any greater than that of the indifferent shots.

It is quite certain that the fire effect of both will be negligible unless the direction and control of fire has been continually practised.

14. It may be assumed that normally for individual training each company will be allotted five weeks during the leave and furlough season. Under the present system three weeks, and more if the weather is contrary, is devoted to preparation for and carrying out of classification, and there remain but two weeks for other forms of training. Of these one is probably devoted to close order drill, and the second to elementary field training, fire discipline, direction and control.

By this method each is treated as a separate subject, one having no bearing on another, which is wrong, and to one subject has been allotted 60 per cent. of the time available.

15. I maintain that close order drill is the basis of all training and again repeat that without it no soldiering is possible.

I also uphold the assertion in S. A. T., Volume I, Section 1, (4) that—"The three concrete fundamentals of minor tactics are:—

- (a) The use of weapons.
- (b) The use of ground.
- (c) The use of formations.

Even during the initial or elementary stages of training, training in (b) or (c) should run concurrently with weapon training and during the more advanced stages, training in the use of the weapon will invariably be combined with the use of ground and formations. Neither in theory nor in practice can these three be separated—they are inseparable.

16. I therefore suggest that the following is a suitable programme (in rough outline) for the five weeks individual training of the company.

1st week. Close order drill—Physical training and arms drill.

2nd week. Elementary weapon training comprising aiming,

drill, firing instruction, etc. Visual training, fire direction and control and fire discipline, grenade and bayonet training.

3rd week. Table "R" 12 practices.

Table "L" Elementary training (continued).

Evenings.

Repetition of 2nd week.

Use of ground and formations.

4th week. Table "R," Part IV.

Table "L," Parts I and II.

Evenings.

T. E. W. T. for section leaders.

Arms drill, etc., under company havildar major.

5th week. Minor Tactical Exercises for sections.

17. Such a programme ensures progressive training, at the end of which the company is ready to do its platoon and company training.

It is so arranged that all branches of training are made inter-dependent as they should be and the training culminates in a final test of the individual.

Where local conditions necessitate a lesser or allow of a greater period being allotted, and the programme can be contracted or expanded to fit, but under no circumstances should one subject be entirely omitted.

18. In my opinion by the introduction of a two year training cycle there would be a similar tendency as exists at present to omit certain subjects in one training season and to include them in the next to the omission of those practised in the previous period, thus increasing the impression that each branch of training is independent of any other.

It is this impression, which must be dispelled before training can be carried out on sound lines so that trained soldiers by concurrent training in all subjects may be capable of performing at any moment any duty that may be required of them.

In conclusion I would point out that I have not mentioned collective training, for the reason that I consider the solution to our difficulties lies in a revision of our system of individual training, which will obviate any interference with the period allotted to collective training and allow of all the time available being devoted to the object for which it is intended.

CORRESPONDENCE.

DIFFICULTY OF OBTAINING BRITISH OFFICERS OF THE RIGHT TYPE FOR THE INDIAN ARMY.

DEAR SIR,

In the editorial columns of the January number of the Journal, the question of the difficulty of obtaining British officers of the old type for the Indian Army is commented on. The reasons, I think, are not very far to seek.

In addition to Indianization, which must be responsible to a certain extent, one chief reason for the shortage is, in the opinion of many senior officers, the unsettled conditions of life now obtaining in the Indian Army. No longer is it possible to count on being stationed in any cantonment for three or four years as could be done formerly in the ordinary course of events. Nowadays units are moved from pillar to post. This entails endless expense to married officers, and in many instances families are not permitted to accompany units. To cite the case of my own unit for instance, which presumably does not differ from others. By next month the regiment will have had six moves in 8 years, in three of which, families will not have been allowed to proceed with the unit—Afghanistan—Waziristan—Iraq. By the end of 1929 officers will have been absent from their families for just six years out of the last ten. In addition too, instead of the former attractiveness of the work in the I. A., such an increase of clerical work devolves on the British officer, which was formerly carried out by subordinates, that he now spends the time in an office, which in the old days was given up to training his men.

Notwithstanding that the pay is now good, I do not consider it is to be wondered at that there is a difficulty in obtaining the old type of officer, as the present drawbacks must inevitably become known to gentlemen who have sons eligible for the Indian Army.

Yours faithfully,

Regimental Officer.

TRAINING OF JUNIOR OFFICERS IN THE UNIT.

SIR,

1. In the editorial notes of the Journal for October 1926 the following statement appears :—

“The Crammer and recently instituted Staff College courses have
LARGELY TAKEN OFF HIS (the Commanding Officer's)
shoulders ANY RESPONSIBILITY for preparing his officers
for the Staff College examination.”

2. May I be permitted to say that this remark is unfortunate in the present time of so many failures.

K. R. 1923, para. 90 reads :—“ A commanding officer is responsible for the systematic and efficient instruction of officers under his command in *all* professional duties and for the preparation for examinations for promotion.” *T. and M. Regs. 1923* draw attention, as you do, to the commanding officer’s *most* important duty even more emphatically. “ It is by the training given by an officer to his subordinates that the efficiency of the army depends.”

“ Senior officers should devote great attention to the training of their juniors.”

“ Unit commanders should, to a large extent, centralize in their own hands the training of their officers.”

“ The main principles as to the responsibility for training are :—

(ii) That the commander of each unit * * * shall devote himself principally to the training * * * and instruction of his subordinate commanders.....”

These are some of the remarks on this very important subject.

3. Junior officers’ schools would be very popular with junior officers, but their formation should not be necessary. In this connection the remarks in the editorial of the “ Fighting Forces,” Volume III (iii), for October 1926 regarding the tactical training of the senior service are of interest.

4. In the Examiner’s remarks on the promotion papers for March 1926 an unnecessary cut is made against a coach. A coach is the only person a junior officer can, as a rule, go to for real and up-to-date instruction. The remark is :—“ Originality was rare, it would appear that there is some sort of widely known coach in India, judging by the similarity of answers submitted by candidates situated geographically very far apart.”

The remark is perfectly correct, there is such a coach and most officers will know who he is and that he is extremely well equipped with knowledge and experience for his position. The point is why is such a coach, or as you quite wrongly term him Crammer necessary ? That he is necessary is proved by the number of officers who study with him. Your editorial notes merely record a set of excuses, not reasons for this failure in that important duty the instruction of junior officers.

Yours faithfully,

A Junior Officer.

(Your letter emphasises the commanding officer's responsibility for the training of his officers but makes out that our Editorial gives vent to an opposite view.

The passage in the Editorial to which you refer points out the difficulties which face a commanding officer in the training of his officers in India but stresses most emphatically that such training is the most important duty of a commanding officer in India as it is at Home. We are, therefore, really in agreement on this point. Coaching for the Staff College is, however, a different matter and it is too much to expect of a commanding officer that he should also be responsible for this as you seem to suggest.

You are not quite accurate in the first sentence of para. 2 of your letter referring to the Staff College examination as "the present time of so many failures." Competition for the Staff College has never been so keen as it is at present and considerably more officers qualify in the examination than can be given vacancies—(EDITOR).

POSITION OF ARTILLERY ON THE LINE OF MARCH.

SIR,

A "P. B. G." has touched on a subject that is controversial and no doubt many ideas on this subject will appear in your columns to the general enlightenment of those who attempt to study their profession. Our thanks are, therefore, due to a P. B. G. and to you, Sir for publishing his letter. It is hard to argue with a P. B. G. because his advanced guard is not usual, this is brought out by your notes. Because something is the "Custom" it must not be implied that such "Custom" is correct.

If artillery should be preceded by some infantry, then why not in this case (as raised by a P. B. G.) by all the infantry.

It is hard to visualize such an advanced guard as a P. B. G. quotes, *e. g.*,

MAINGUARD	1 Coy. occupying road space of	..	130 yards.
	1 Battn. occupying road space of	..	330 "
	2 Coys. occupying road space of	..	260 "
MAINBODY	1 Battn. occupying road space of	..	810 "
	1 Bde. R. A. occupying road space of	..	3,150 "
2 remaining	Battns. occupying road space of	..	1,620 "

What is left for the vanguard ?

Here two factors have been raised, firstly, the sandwiching of artillery amongst infantry in an advanced guard and secondly, the sandwiching of artillery amongst infantry in the mainbody. Two totally different questions and I only propose to *touch* on the first.

In my opinion, the reason why artillery is so often thus “Sandwiched” is due to a misunderstanding of actualities and to a misinterpretation of Napoleon’s maxim of war which reads:—“*Artillery should always be placed in the most advantageous positions, and as far in front of the line of Cavalry and Infantry as possible.*”

When writing of artillery Napoleon visualized the requirements of his day as the two preceding maxims will make clear. Maxim XXXII is as true to-day as when written.

The chief lesson learnt from the early part of the Mesopotamian campaign was the uselessness of splitting up formations and units and improvising staffs.

Let us consider the composition of an advanced guard of a brigade and attached troops.

MOUNTED TROOPS.—You will seldom have as much as you require therefore I disagree with I. T. II 1926, Sec. 28 (7) and F. S. R. II, Sec. 45 (5). I should, as a rule, place ALL my mounted troops with the advanced guard mounted troops and keep connection with cyclists and motor cyclists. I say, as a rule, not always.

VANGUARD.—Who are you going to have here ? Artillery ? Well, if your enemy are armed with tanks, armoured cars, light automatics or machine guns, most certainly yes. (Remember the Delhi Manœuvres 1924). Right you are then to have artillery with the vanguard, and of course infantry.

How much infantry will you have ? It is “customary” to have one company. Is this correct ? Napoleon says the duty of an advanced guard is to manœuvre. What does the vanguard do ? F. S. R. AND I. T. say overcome the opposition, then gain information and finally to pin the enemy to their ground.

Can you do this and escort your artillery with one company ?

I. T. II, Sec. 28 (10).—“*The Infantry will already be deployed before the enemy’s protective troops are met.*”

Can you therefore do all the above tasks with one company ? I doubt it. Therefore I should choose two companies with your advanced guard. In an attack the battalion commander very often has two forward companies and only two in battalion reserve.

How much artillery will you have with your vanguard ?

The best you may expect is Pack at any rate in India or China. Your divisional artillery is very precious. Therefore use it economically. The road space of a pack battery is 680 yards and of a section is 330 yards.

I. T. II, Sec. 28 (10).—*Artillery moves by bounds.* F. S. R. II, Sec. 72 (2). *The first duty of an artillery commander during an approach march is reconnaissance.* Sec. 72 (3)—*When contact is gained the artillery commander of the force must be in close touch with the development of the action of the advanced troops in order that portions of the artillery or the main body may be rapidly brought into action when required to reinforce artillery with the advanced troops."*

Therefore I visualize with your vanguard a pack battery less 1 section, not 1 section and the officer commanding out of touch behind. Thus your vanguard artillery will require a road space of 350 yards and your infantry 260 yards or supposing it had a M. G. platoon attached 310 yards. Can there be any advantage of sandwiching this force ? Surely not then why "Sandwich" proportionately larger advanced guard forces ?

You, Mr. Editor, say :—"The reason is not onlybut that the troops should be placed in the column in the order in which they are most likely to come into action."

A "P. B. G." refers to a small force. Does 300 yards or even 1,200 yards make much difference to artillery in the initial encounter ?

I maintain that to sandwich artillery in such a small force is customary but definitely wrong.

P. B. G. writes "The Headquarters' Staff who head the Column" You, Mr. Editor, say :—"The R. A. Bde. Commander would probably be with the Infantry Bde. Commander at the head of the MAINGUARD and the Battalion Staffs at R. A. Bde. Headquarters or even further forward, i. e., you make two statements and I

think you are wrong in both, but this raises the question of the position of commanders, in itself a big subject, and as this letter is already too long.

I shall remain,

F. F.

(There is little to add to the Editor's remarks made to "P. B. G.'s" letter in the January number, *i. e.*, the reason why some infantry generally precedes the artillery in a column on the march, is, either for ordinary purposes of protection, or in order that troops should be placed in the column in the order in which they are most likely to come into action—or for both these reasons. This is a matter of common sense and not merely "custom." We agree with you that formations should be split up as little as they possibly can be.

You visualise a vanguard of 1 pack battery less 1 section and 2 companies and state "your vanguard artillery will require a road space of 350 yards and your infantry 260 yards.... Can there be any object in sandwiching this force? Surely not—than why sandwich proportionately larger advanced guard forces?" The answer is that there is no point in sandwiching in such a case, unless your vanguard was liable to attack in rear, as well as in front. In the case of the "proportionately larger forces" you appear to be looking at the problem from the point of view of the R. A. only. Doubtless it would be more comfortable for the whole of a field brigade to be at the head of the main guard and a complete infantry brigade behind them but the commander might wisely decide not to have his leading infantry half an hour's march back when he might require them at short notice.

We shall await your solution to the position of commanders on the march with much interest—(EDITOR).

Criticism of an article on " ' Sealed Pattern ' formations for the cavalry squadron in manœuvre " which appeared in the October number of the Journal.

[*Ed.*—The following criticisms have been received from a correspondent].

The following is not a criticism of the value of "Sealed Patterns" but of the diagrams put forward and their accompanying notes.

Ref. Diagram 1 and note on Officers' Patrol.

If a special patrol, such as this is, *can* be carried out by 1 section of 6 men including the N.-C. O. so much the better but it will depend very much on circumstances. Normally this would be more than a 1 patrol task.

As regards the formation it is suggested that the reconnoitring or special patrol moves concentrated to avoid observation, etc., for that reason the 2 rear men should be closed up.

As the officer or patrol leader is the person who has to observe and report it is necessary for him to have men for his protection and it is dangerous to advocate that the officer, N.-C. O. and horse-holder observe and bring in the 3rd message.

The officer might have to take 2 or 3 sections according to their strength and would base his calculations somewhat as follows :—

- 1 Assistant (Second-in-Command).
- 2 Scouts.
- 2 Watch flanks.
- 1 Horse-holder and aeroplane scout.
- 1 Watch rear (perhaps not necessary or could be done by one of the others).
- 6 Messengers—(Hostile country) and patrol leader.

13

If the patrol is operating just in front of our line and in certain other circumstances the number of messengers could be reduced.

Ref. Diagram 2 and notes on Advanced Guards.

It is regretted that C. T. II, 1920 and the proof of C. T. II, 1924, both show a section providing 2 pairs of scouts. Attention to this has, I understand, been drawn. On service a section will average 4—5 men with the N.-C. O. and cannot afford to have 4 men out as scouts as the *general* rule. If the patrol leader sees cover which has not been searched he can always detach scouts to search this cover and *return*.

The frontage again in the old book was 4,500 yards corrected by A. O. 1923 to 2,500 yards and the latter distance again appears in the new C. T. II. No frontage should be laid down as it naturally depends on circumstances and that the advanced guard as other protective detachments must cover the front given it.

In this connection the new C. T. II, refers to 1,200 yards as the frontage for a troop—Again why ?

The showing of pairs of scouts every 200 yards in the diagram in the article cannot be too strongly condemned. Is it seriously suggested that it is necessary to have a pair of *mounted* men 200 yards—the breadth of a polo-ground—apart, even in enclosed country ? scrub or jungle possibly.

In the greater part of India and in many other parts of the world including France, mounted scouts can easily work 600 yards apart. This is by no means an extremelimit and it is not expected that scouts and patrols should comb every field of “charri,” etc., for a possible hostile patrol.

If the country is very open the vanguard troops need only send out 1 pair of scouts. The directing section is not always necessary and could be one of the advanced sections.

As regards the remainder of the 2 diagrams, there is no material difference except in the position of the leaders.

(1) As regards the conduct of the advanced guards every one agrees with the principle for small bodies that information should not have to come back and for that reason the position of leaders in the attached diagram are well forward and it is not considered necessary that there should be all this continual intercourse between squadron-leader and troop-leader and troop-leader and section-leader in a well trained squadron.

(2) Naturally move by bounds when available, otherwise a steady continuous forward movement.

The idea of “Canter” “Halt” should be the exception.

(3) That an advanced guard can maintain 6 or 7 miles an hour for any length of time and remain efficient is doubted. Though admittedly can be done at times by a squadron in advanced guard to a regiment.

The advanced guard regiment of the leading brigade of the 5th Cavalry Division in Palestine on 19th September 1918, covered 22 miles in 4 hours to the division 1st bound. Speed having been enjoined. This averages out $5\frac{1}{2}$ miles per hour.

The enemy was broken but opposition was continually met and had to be overcome necessitating a few charges. The day was hot and the first 8 miles was up the sea shore—heavy sand on a hot day.

The vanguard squadron had to be relieved 3 miles short of its objective and many horses had to be left behind, at this bound exhausted.

Also compare pace of the advanced guard to the 4th Cavalry Division from AFULE to BEISAN on 20th September 1918 and the 3rd A. L. H. Bde. from LEJJUN—JENIN when 10 miles an hour was maintained for 11 miles.

In both cases a special effort was required. For details see Cavalry Journal Vol. XIII, p. 37.

These are exception and *not* the rule. A special effort can always be made, but what is then achieved cannot be quoted to illustrate a "Sealed Pattern."

Diagram III, and Notes on Reconnaissance of a village.

On this diagram and explanation there is very little to remark. It is certainly *a* method.

Most of these operations can be speeded up by intelligent anticipation and use of map by the troop-leader or even squadron-leader.

It is certainly no exaggeration to say of this or any other field manoeuvre that practice will increase the speed with which it can be carried out.

Diagram IV—The mounted attack against a mounted enemy. This diagram shows some errors.

- (i) A reconnoitring detachment is used in addition to the 4 troops of the squadron.

The definition of a reconnoitring detachment in C. T. I. is that it is "a body not smaller than a troop."

- (ii) In general the support troop should be on the outer flank.

- (iii) The squadron-leader should lead the support leaving his 2nd-in-command to lead the first line. C. T. II. 1920, Section 41, para. 3. "Having launched the attack, the commander should be where he can best observe the fight and at the same time keep his reserve well in hand for subsequent action."

Major Mayne states that "it seems to be the normal practice for the 3 sabre troops of the squadron to execute the mounted attack against mounted troops in line."

In one's experience the attack by troops in echelon has been more generally used.

Also the A. H. Q. troop is not sufficiently to flank.

Diagram V, and Notes on Mounted attack on a Dismounted enemy.

Criticism.—(i) If the attack is deliberate the ground scouts might not be necessary as there will have been the preliminary reconnaissance of the position and ground.

(ii) Position of squadron-leader should be changed with that of the 2nd-in-command.

(iii) For the 1st line "widely extended order" is necessary as the tendency is to close in.

The following intervals are suggested—8 yards, for 1st line and 4 yards for 2nd.

(iv) The H. R. Troop should be prepared as soon as the attack looks like succeeding to gallop 2 guns forward to the position to help consolidate it—take on counter attack—or pursue with fire, being joined by the 3rd when it is seen that the position has been taken.

Diagram VI and Notes on Dismounted Attack.

There is very little to be said about this manœuvre as cavalry now have no bayonet and it is in consequence difficult to push an attack home.

Presumably this is a case when the mobility conferred by the horse has been wholly relinquished.

Troop columns in snake formation might be abandoned by section ones before deploying.

Again the position of the squadron-leader is wrong.

Diagram VIII and Notes—Withdrawal from a temporary defensive position.

It is understood that this is a retirement from a temporary defensive position and not a rear guard action, when retirement by troops would be normal and the frontage to be covered might be 4,000 yards.

In this diagram no frontage is given and we cannot think that even in a position of very limited extent is it "the common practice for the support troop to cover the frontage held by the squadron.

The method advocated is so sound that it stands by itself without contrasting it with an unsound method.

Again one does not like the gallop even in practice though Major Mayne's reasons are sound.

In action it is admitted troop will tend gallop, but this should not be allowed except in certain circumstances and for the rear sections.

The second half of the notes refers to rear guards retiring from position to position when troop retirements are more usual.

[*Ed.*—These retirements are matters of opinion, and as long as the principle is observed of one unit covering the retirement of another, there is little to be said.

The retirement at a "gallop" is definitely unsound even if it does *sometimes*—not always—take place].

REVIEWS.

A BRIEF OUTLINE OF THE CAMPAIGN IN MESOPOTAMIA,
1914-18.

BY MAJOR (TEM. LT.-COL.) R. EVANS, M. C., P. S. C., ROYAL
HORSE GUARDS.

(*Sifton Praed & Co., Ltd., London, 1926*), 7 s. 6d.

This book most admirably fulfills the purpose of the author which was "to produce a clear outline picture of the campaign, an outline which will help the reader to a more detailed study." It is difficult to find a superfluous word or sentence in the whole 135 pages, and yet in spite of this compression the book is easy and extremely interesting to read.

The opening chapters contain a summary of the climate and geography of the country, its historical relationship to the Eastern policy of Great Britain and the course of policy and events leading to the commencement of the campaign.

Throughout the book the relation of the Mesopotamia campaign to the other British and Russian enterprises against Turkey and to the Great War as a whole is kept in view. Emphasis is laid on the disastrous manner in which the ever-expanding claims of local policy were allowed to outrun strategy and administrative resources and on the dangerous multiplicity of higher controlling authorities, especially in the early years.

The political, strategical and administrative situations at various stages of the operations are clearly appreciated which leads to a vivid picture of the course of the campaign.

Limits of space and intention have prevented the author from entering into any tactical detail, but the plans of the commanders in the more important actions have been summarised and the actual course of the subsequent fighting broadly outlined.

The author has described the personalities of General NIXON and General MAUDE and has emphasised the value of the administrative improvements initiated by General LAKE during his period of command.

The main lessons of the campaign are brought out throughout and summarised in the last chapter.

Four sketch maps enable the book to be read without reference to other works or atlases.

The book should prove of interest to non-military as well as to military readers. The clear statements of the lessons of the campaign and of certain battles should be of particular value to those working for the Staff College who have Training for War essay questions in mind.

RAFFLES, 1781-1826.

BY R. COUPLAND.

(The Oxford University Press, London, 1926), 6s.

The name Raffles to the ordinary reading public brings to mind in the first place the gentleman burglar who in recent years has figured as the hero of stage players. It is only on second thought that it recalls one of the heroes of the romance of the Empire building to whom Britain owes the possession of that very important link in the chain of seas power—Singapore.

Thomas Stamford Raffles lived during one of the great crises of the Empire's history. The year of his birth 1781, was the year of the loss of the American colonies, when the first British Empire died. During the 45 years of his life, a second British Empire was born and his was an important part in the work of Imperial reconstruction.

He entered the service of the East India Company as a youth, and before the age of 28 had acquired the reputation of an authority of the affairs of the Malayan Archipelago.

He was Lord Minto's right hand man in the expedition to Java, when that island was wrested from the French and Dutch 1811. Raffles was appointed Lieutenant Governor of the island and in that position he displayed conspicuous gifts as an administrator.

When Java was restored to the Dutch in 1816 he returned home and received a knighthood from the Prince Regent.

In 1818 he returned to the East and in 1819 acquired and founded Singapore of which he wrote "Singapore is every thing that we could desire. What Malta is to the West that may Singapore become to the East." It was a remarkable prophecy.

He returned home in 1824 broken in health and died two years later at the early age of 45. Such is the bold outline of the story of Sir Stamford Raffles. The author has made it a living piece of history and infused his pages with the personality of the man and the spirit of his purpose.

The book is excellently written and is a very valuable contribution to his historical knowledge of the Empire. It will appeal alike to the reader of tales of adventure and to the student of history.

COMMON MISTAKES IN THE SOLUTION OF TACTICAL PROBLEMS AND HOW TO AVOID THEM.

BY BREVET LT.-COL. A. B. BEAUMAN.

(*Hugh Rees, Ltd., London, 1926*).

The danger of all books written with a view to assisting officers to pass examinations or to train their commands is that they may mislead the student by removing portions of the official manuals from their context, or by over emphasizing certain points to which the writer may wish to draw special attention.

Colonel Beauman has been at pains to avoid these errors, as far as it is possible to do so, and his teaching if properly read is nowhere at variance with the training manuals; and, as far as it goes, it is eminently sound. It is, however, always doubtful to what extent a book of this nature has a real purpose to fulfil, at any rate now that the Infantry Training, Vol. II, 1926, has been published.

The experience of another officer is however always interesting and instructive to those charged with a similar duty and for this purpose the book is to be recommended to those charged with instructing officers for examinations, particularly when the Author's war experience and qualifications are vouched for by Sir Hastings Anderson, and when he has had the advice of General Wardrop.

The book can also be recommended to candidates themselves provided they understand that it is not in any sense intended as a substitute for the training manuals; in fact (and in this Colonel Beauman himself would probably agree) it will not be of much value until after they have studied them thoroughly and also attempted to apply their teaching by doing several tactical exercises, either on the ground

or on the map or both. For the real difficulty is to apply the teaching of the manuals to definite problems, and the best way to learn is by making mistakes and realizing that they are mistakes.

The book would be improved if the sections and paragraphs in the various manuals, which deal with the mistakes selected, were inserted in the margin ; it could then be studied more easily in conjunction with the manuals themselves, which undoubtedly is the author's intention.

Should a third edition be contemplated in the future we might also suggest that a chapter be added to help candidates to tackle two problems which inevitably confront them in war and also in examination. These are, firstly, to answer the two questions. What is the situation ? What is the job ? and secondly, to give a coherent, concise, and definite verbal or telegraphic order.

Inability to answer these questions or to give such orders are probably the greatest causes of failure both in war and in the examination room.

NOTES ON THE CAMPAIGN IN FRANCE 1914.

BY A. KEARSEY.

(*Messrs. Sifton Praed, Ltd., London, 1926*), 3s.

A useful little book to assist officers working for the promotion examinations.

In the appreciation from the German point of view, there are one or two points that are noticeable.

No mention is made of the estimated French or Belgian strength in aeroplanes and balloons.

Adverse criticisms of the German policy, high command and tactical leading appear in this appreciation from the German point of view.

Similar criticisms appear in the appreciation from the French point of view. Here also no credit is given to the French Higher Command for having envisaged the possibility of Germany carrying out her actual plan.

The chapter dealing with lessons to be learnt from the various engagements, is useful but not complete in connection with the battle of Mariolles, 25th August is that the 6th Infantry Brigade were able to withdraw with their outpost line unnoticed and the retirement was not followed up for several hours.

The advisability of having a section of medium guns with the advance guard to a pursuing force was brought out during the advance to the Aisne. On one occasion (September 10th) a long column of transport could be seen retiring out of range of field guns. Before any 60 prs. could be brought up from their position about the middle of the column of the main body, the opportunity had passed. Now that mediums are tractorised, advantage should always be taken of their greater mobility.

In the list of questions at the end of the book, the student is not encouraged to consider how the situations would have been affected by cross-country transport, which is bound to have an enormous influence on future campaigns.

THE SOCIALIST NETWORK.

BY NESTA H. WEBSTER.

(*Boswell Printing and Publishing Co., Ltd., London, 1926*), 10s.

Revolutionary movements throughout the world have become so interwoven and so complicated that it is almost impossible for the general reader to understand their connection one with the other, and to trace any particular movement from its source.

This book by Mrs. Webster fills a real gap in our library. It is a most valuable account of the socialist organizations of modern times, and gives clearly and concisely the origin, history and present status of each organization.

The opening chapters deal with the origins of modern socialism, socialism of the pre-war period, anarchism and syndicalism. The pages describing the building up and the ramifications of the Labour Party in Great Britain are of particular interest.

A chapter on "The War and Pacifism" shows clearly how various societies in Great Britain some under the guidance of German agents—did their best to spread anti-war propaganda to the advantage of Germany.

The authoress then describes how the world revolutionary movements after the Russian revolution came under the direction of Russia, having been directed up to that date from several different quarters. The course of the Communist movement in various countries, after the Bolshevik revolution, is described shortly, and brought fully up to date. A special chapter is devoted to Bolshevism in Great Britain and in Ireland.

The latter part of the book, however, contains the most interesting and most valuable chapters, in which Mrs. Webster describes the Trade Union organizations and the attempts which have been, and are being, made to Bolshevize British Trade Unionism. The communist organisations in Great Britain are given in great detail with the names of committees and of persons taking an active part in supporting the Communist movement.

Mrs. Webster gives us a grave warning in her concluding chapter in which she points out that the disintegrating doctrines of international socialism are spreading slowly but surely throughout our Empire. Though the general strike has been broken, she shows clearly that we have by no means got to the end of our troubles, and urges that early and properly organised steps should be taken to put up a more effectual opposition. Her concluding words are as follows: "So the Red tide rises steadily, and unless we work far harder than we have done before, and above all organise as we have never done, this island may be submerged as were France and Russia before us."

The book forms a permanent work of reference and an invaluable aid to those who wish to keep *au fait* with the complicated political problems of to-day. The authoress does not include in the book the large number of secret and occult societies now in existence. She has ably dealt with these in her previous book "Secret societies and subversive movements," which has already been reviewed in the U. S. I. Journal. One wishes she had carried her investigations further and included in her new book a description of the revolutionary organizations in the Middle and Far East, which are playing such a large part in Asiatic politics.

A useful chart in a pocket at the end of the book gives diagrammatically the various societies, leagues, unions and socialist parties in Europe and America with their ramifications.

IMPERIAL DEFENCE, 1588—1914.

BY COLONEL J. F. C. FULLER, D. S. O.

(Messrs. Sifton Praed & Co., Ltd., London, 1926), 3s. 6d.

As its title suggests, this little book of 102 pages presents an historical résumé of the more important events which have helped to formulate our present conception of Imperial Defence. The author's object is simply to provide an introduction to the problems by an examination of the principles which have governed the evolution of the Empire.

The major portion deals with the result of the frequent changes of the balance of power in Europe in relation to colonial development. The effect of our wars has been to consolidate and reconcile diversity with uniformity in which process, the command of the sea has been the most important factor.

Incidentally there is a severe criticism of our foreign policy in failing to stand by treaties with Continental Allies. The author agrees with Vestal that had we stood by Denmark after 1864, Germany would have lacked a precedent in breaking faith with Belgium in 1914. We have also been negligent in not interfering earlier to stop the rising tide in Central Europe. All of which may be a perfectly logical deduction but of academic interest only. What we now want to know is, can we afford to devote a close interest to Europe without in any way sacrificing the demands of the Empire whose growing pains are becoming acute ?

The tardiness with which the Dominions associated themselves with Britain's recent venture in independent diplomacy on the continent is warning enough.

One might disagree with Colonel Fuller in having approached the problems of Imperial Defence too much from the angle of Europe and not enough from within the Empire. It would have been interesting to hear for example how the growth of Britain's dominions is viewed by the nations of Europe and to what extent this is affecting their policy.

As he points out, until comparatively recently the Imperial policy has been for England to "run" everything and accept responsibility for defence. Conditions have gradually altered and the

overseas possessions from being liabilities are now tremendous assets. The pendulum has swung from dependence to co-operation and joint responsibility.

The effect of scientific invention in upsetting pre-conceived notions of defence has led Colonel Fuller to ask "Where are *we* Imperially?" He would probably get a truer answer from the Dominions than from England. It is impossible to carry away a feeling of despair if one remembers this, for the fear which prompts such questions is the result of a sectional outlook. The "we" must be used carefully in Imperial parlance.

The problems of Imperial Defence may be viewed from several angles and too often do we hear only of the constitutional and military aspects. The United States have at least taught us the use which can be made of economic pressure and in this respect the possibilities before us as an Empire are enormous. The development of our colossal resources apart from having a unifying effect within the Empire will exert a powerful influence in our foreign relationships.

The author has not much opinion of the League of Nations. Its terms, he claims, are diametrically opposed to the very principles on which the Empire has been nourished.

By agreeing to the Washington Disarmament Terms we have abandoned command of the sea, thus leaving our frontiers unprotected which will make difficult the maintenance of a balance of power. As a result the writer asks what is to replace this? And answers it by what many agree must be the only solution, the establishment of a League of British Nations. It is in other words a recommendation to mind our own business and "get on with the job" of Empire building as the one road to future security and happiness.

One can confidently recommend this book to students of Imperial Defence.

GOVERNMENTS AND WAR.

BY MAJOR-GENERAL SIR F. MAURICE.

(Messrs. William Henemann, Ltd., London, 1926), 8s. 6d.

War is a solver of problems but it is perhaps an even greater creator of new ones. Of all the outstanding problems that the last war

left unsolved perhaps the greatest and the most remarkable was the right way to conduct a war ; that such a problem was left unsolved is all the more astonishing since it is only logical to suppose that a war will be lost, or at the best hardly won, unless it is conducted properly. Yet, it is difficult to find in the annals of military history any examples of wars that were conducted ideally.

The years that have elapsed since the last war have seen a flood of literature let loose on an unsuspecting world dealing with every possible and impossible aspect of this great struggle : on this flood there have drifted down, here and there, criticisms and suggestions on the subject under consideration, but I think I am right in saying that General Maurice is one of the first authors to put his mind and his pen to the subject seriously.

Field Marshal Sir William Robertson and other distinguished soldiers and sailors have shown us here and there glimpses of the confusion that existed in the conduct of the war and Lieut.-General Sir Gerald Ellison has concentrated on giving us a picture of that most deplorable of all examples of amateur strategy, the Dardanelles campaign. Sir Frederick Maurice, wise in his generation, has eschewed the Great War, judging very rightly that it is of too recent occurrence to allow us to free our minds from confusion and bias. He has gone to the American Civil War for guidance, partly, as he says, because it is rich in literature and partly because this war was fought out under conditions bearing many analogies to the Great War.

For the purposes of his investigations, the author takes four examples from the American Civil War, two from the North and two from the South, and in his own clear and lucid style examines the relations between the head of the state and his military commander. On the Confederate side he has selected the relations between Jefferson Davis and his two Commanders, J. E. Johnston and Lee and of the Federals he takes Abraham Lincoln's dealings with MacLellan and Grant. It would seem that he has almost found his ideal in the relations that eventually existed between Lincoln and Grant and he is so emphatic as to state that their conduct of the war was, and still is unsurpassed. Jefferson Davis in his capacity of head of the Confederate States is an extremely interesting study, for he had had a military upbringing ; as such he is an example of that type of man who has been labelled as an " Amateur Strategist " and who, in his capa-

city as politician, has been the centre of many cyclonic disturbances. Jefferson Davis committed many of the blunders alleged to be typical of the amateur strategist ; he even, it is recorded, descended on the battlefield and himself issued orders to the troops, orders that proved peculiarly futile. The main point is that he definitely failed in his task of conducting the war because he failed to realise that the peacetime machinery of Government was totally unsuited to the conduct of a war. Here perhaps is the great truth which it has taken us all so long to realise and which is only half realised even now. It is the line of country which has been scarcely ridden at all ; it matters not whether the country's government is democratic or autocratic, as history has shown ; what does matter is a thorough realisation of the fact that the relations between the armed forces and the government are not, and never can be, the same in peace and war.

Jefferson Davis disliked J. E. Johnston and perhaps for this reason he never gave him his full confidence. With Lee relations certainly improved ; Lee was, however, an exceptionally tactful man as well as being a brilliant soldier. In spite of this, however, Davis still did not clearly define his policy if indeed he had one and Lee, from motives, perhaps admirable, but certainly erroneous, forbore to tender him any advice.

Abraham Lincoln, had in some ways, far more to learn than Jefferson Davis ; he succeeded, however, in keeping an open mind and he knew what his policy was and stuck to it, a great advantage as the results of the war proved. With MacLellan his relations were not too happy, but in Grant he at least found an ideal partner.

General Maurice has clearly shown by these examples that a war can only be successfully conducted on a basis of mutual confidence, appreciation of difficulties and a policy of non-interference. He claims that Abraham Lincoln and Grant ultimately arrived as near this millenium as is humanly possible and that the success of the Federal arms was never in question from this time.

General Maurice in his summary very rightly points out that the conduct of a modern war is not so simple a problem as confronted the heads of the States in the American Civil War ; on the contrary it is a most complex problem and its ramifications are unending. In the end we sought a solution of our difficulties in the formation of a Sup-

reme War Council, the idea was sound, but the numbers of this body became so large as to defeat almost, its main object. The author suggests that the real solution lies in making one man, and one man only, responsible for the conduct of the war and that man... shall be the Prime Minister himself. There is an old saying that the best committee consists of three members with two absent and there is much truth in this. It will be argued that the burden of responsibility so imposed is too great for mortal man to bear ; the question arises, therefore, is it any worse than the present one ?

The creation of a Ministry of Defence has been put forward by many as the ideal solution of this problem ; a Royal Commission, after the most careful consideration, has definitely recommended otherwise and in the light of hard facts their finding seems very wise.

The whole problem remains yet to be solved ; General Maurice's book is a valuable contribution to the solution of this problem ; let us hope that other distinguished military critics and statesmen too, will follow his example and give us the benefit of their views : it is only by free discussion that we may hope to find a solution.

IMPERIAL DEFENCE.

BY STEPHEN KING-HALL.

(*Ernest Benn, Ltd., London, 1926*), 9s.

This book gives the reader a short but none the less comprehensive insight into a question on which many of our ideas are extremely vague.

It starts in logical sequence with our foreign policy, then describes the nature of our Empire, and the wars with which we may be faced.

Later chapters are devoted to the much vexed question of the co-ordination of our fighting forces and the points for and against a Ministry of Defence are discussed.

The fact that the author has been a student, both at the Camberley and Greenwich Staff Colleges makes him particularly able to discuss these questions of the Services from a broad aspect.

This book should be of considerable value to officers working for the Staff College.

A GREATER THAN NAPOLEON, SCIPIO AFRICANUS.

BY CAPTAIN B. H. LIDDELL HART.

((*William Blackwood & Sons, Ltd., London, 1926, price 12s. 6d.*)).

The author has set himself the task of proving that Scipio Africanus was the greatest general of all time and that "his military work has greater value to modern students of war than that of any other Captain of the past." (Preface). A bold task, as the author himself admits but one to which he has applied himself with the fervent zeal of the biographer.

Whether Captain Liddell Hart has proved his assertion or not it rests with the reader to decide, but he has presented his case with a force and clearness which one cannot but admire. There is no doubt that the book will amply repay the reader for the time devoted to its study and it is well worth the attention of the student of military history.

The book may conveniently be divided into three parts.

The first six chapters deal with Scipio's early days, of which but little is known, and his campaigns against the Carthaginian forces in Spain.

The second part (Chapters VII-XI) describes his campaign in Africa ending with the final and decisive defeat of Hannibal and the overthrow of the Carthaginian power at the battle of Zama.

The remaining chapters of the book deal with the last few years of Scipio's life, when he retired into comparative obscurity, only to emerge once to help his half-brother, Publius Cornelius Scipio in his campaign against Antiochus of Syria. In the last chapter of all the author seeks to prove the pre-eminence of Scipio amongst the great Commanders of the past by comparing him as a general, a statesman and a man with Alexander, Hannibal, Caesar and Napoleon.

It is chiefly in the realm of strategy that Captain Liddell Hart claims for his hero a world-wide superiority. All through the book he stresses Scipio's foresight and his ability, not only to grasp the military aspects of any situation, but, what is more important, to appreciate also the economic and political forces involved. Scipio realised that in war the inter-play of military, economic and political forces is inseparable and in all his campaigns the moral objective was the aim of all his plans.

The reader is reminded of the deplorable results of the interference of the amateur strategist during the Great War, 1914-1918, which led to such a wide dispersion of force and the author shows how Scipio, on the other hand, though crippled by a Senate in Rome which did its best to hinder him at every turn, still managed always to keep his ultimate objective in view and to concentrate all his forces upon this objective. This is admirably illustrated in his African Campaign where Scipio, with the true insight of the great strategist, strikes at the very nerve centre of his enemy, Carthage, and, by so doing, forces Hannibal to abandon his campaign in Italy and to return post-haste to Africa to meet his fate at Zama.

It is in the last chapter of the book that the author really seeks to substantiate his claim of Scipio's superiority by comparing him with Alexander, Hannibal, Cæsar and Napoleon. "Any such comparison," he states, "must be based on the conditions these men had to deal with and on the skill with which they turned these conditions to their advantage."

Alexander, Hannibal, Cæsar and Napoleon, all these four, had one great advantage over Scipio, in that they were to all intents and purposes their own masters "having autocratic power, and complete control over the forces and resources available."

Whereas Scipio had to suffer constant interference from a Senate, which was almost invariably in disagreement with his aims and actions.

Alexander and Cæsar never met an opponent of their own calibre. While Scipio fought constantly against trained generals such as Hannibal and Hasdrubal, whose military prowess was unquestioned. Hannibal, it is admitted, is the "supreme tactician of history" and yet "the record of Scipio's battles in ruse and stratagem is even richer." But Scipio, besides being a soldier, was a diplomatist and a statesman.

Napoleon pre-eminent as a strategist, did not shine as a tactician. But Scipio was as great a tactician as a strategist.

A SHIKARI'S POCKET BOOK.

By C. McCANN and LT.-COL. C. H. STOCKLEY.

(Oxford University Press, Bombay, 1926). Rs. 5.

This is a handy little leather bound pocket book containing in a concise and portable form all that the sportsman in India wants to know on the subject of skinning and preserving trophies in the field.

There is no doubt that this is a subject on which many sportsmen are ignorant, and are content to leave it entirely to their shikaris, with the result, that many good trophies are ruined.

The book also contains useful lists of camp equipment, stores and clothes suitable for a shooting trip, and has at the end a big game register.

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The Committee reserve to themselves the right of omitting any matter which they consider objectionable. Articles are only accepted on these conditions.

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Contributors will be supplied with three copies of their paper *gratis*, if published.

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| 14. Major-Genl. Sir Walter S. Leslie, K.B.E.,
C.B., C.M.G., D.S.O. | 18. Major C. A. Boyle, D.S.O. |
| 15. Colonel on the Staff H. C. Jackson, C.B.,
C.M.G., D.S.O. | 19. Squadron Leader E. J. Hodsoll. |
| 16. Colonel M. Saunders, D.S.O. | 20. D. Petrie, Esq., C.I.E., C.V.O., C.B.E.,
M.A. |
| 17. Colonel E. F. J. Hill, D.S.O., M.C. | |

MEMBERS OF THE EXECUTIVE COMMITTEE, 1927-28.

Elected Members.

- | | |
|---|--|
| 1. Major-Genl. W. M. St. G. Kirke, C.B.,
C.M.G., D.S.O. (President). | 4. Colonel E. F. J. Hill, D.S.O., M.C. |
| 2. Colonel on the Staff H. C. Jackson, C.B.,
C.M.G., D.S.O. | 5. Major C. A. Boyle, D.S.O. |
| 3. Colonel M. Saunders, D.S.O. | 6. Major H. I. Allen, D.S.O. |
| | 7. Squadron Leader E. J. Hodsoll |

Additional Members.

- | | |
|------------------------------------|---|
| 8. Major W. K. Rebsch, D.S.O. | 11. Captain L. Gilbert, M.C. |
| 9. Major S. A. H. Hungerford, M.C. | 12. Captain R. J. Wilkinson, O.B.E., F.R.G.S. |
| 10. Major T. C. E. Barstow, O.B.E. | |

SECRETARY & EDITOR
SUPERINTENDENT ..
LIBRARIAN ..
BANKERS ..

..CAPTAIN J. G. SMYTH, V.C., M.C.
..SUB-CONDE. J. C. ALFORD.
..MISS W. MCCORMICK.
..LLOYDS' BANK LIMITED.
(COX'S AND KING'S BRANCH), SIMLA.

1. The United Service Institution of India is situated at Simla.
2. Officers wishing to become members of the United Service Institution of India should apply to the Secretary. The rules of membership are printed inside front cover.

3. The Reading-room of the Institution is provided with all the leading illustrated papers, newspapers, magazines, and journals of military interest that are published.

4. There is a well-stocked library in the Institution, from which members can obtain books on loan free. Books are sent out to members V.-P. for the postage.

5. The Institution publishes a Quarterly Journal in the months of January, April, July and October which is issued postage free to members in any part of the world.

6. Members and the public are invited to contribute articles to the Journal of the Institution for which honoraria will be awarded by the Executive Committee. Rules for the guidance of contributors will be found in para. IV, Secretary's Notes.

7. Members are responsible that they keep the Secretary carefully posted with regard to changes of address.

8. When temporarily in the U. K. Officers of the Indian Army can join the Royal United Service Institution, Whitehall, for a period of six months on payment of half a guinea, or for a period of one year on payment of a guinea.

SALE OF PERIODICALS.

This Institution offers the following periodicals to members on sale from the dates shown to 31st December 1927: The papers will be sold to the members submitting the highest bids by the 31st August 1927. Each issue of the periodicals will be sent to the purchaser as soon as the next issue arrives in Simla. In the case of purchasers in Simla, delivery will be free, otherwise postage will be charged.

<i>Title.</i>		<i>Published.</i>		<i>Available from</i>
The Tatler	..	Weekly	..	30-3-27
„ Sketch	..	„	..	23-3-27
„ Bystander	..	„	..	23-3-27
Ever the Lady's Pictorial	..	„	..	30-3-27
The Illustrated Sporting and Dramatic News	..	„	..	26-3-27

United Service Institution of India,

JULY, 1927.

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I.—New Members.

The following new members joined the Institution from 1st March to 31st May 1927 :—

LIFE MEMBER.

Lieut. C. V. King.

ORDINARY MEMBERS.

Captain T. R. Hurst.	Lieut. E. B. Jones.
Captain L. A. Stuart.	Major Rajvi Sohan Singl.
Major Riasat Ali Mirza.	Lieut. M. A. Pyke.
Captain C. McV. Gubbins.	Captain J. D. Tucker.
Captain H. Bullock.	Lieut.-Colonel J. C. Dundas.
Major E. C. Mockler.	Air Vice-Marshal Sir W. Geoffrey.
Lieut. G. H. N. Todd.	H. Salmond.
Major J. A. C. Kreyer.	H. G. Haig, Esq.
Lieut. C. B. Pannappa.	Lieut.-General Sir Cyril J. Deverell.
Captain D. W. Reid.	G. M. Young, Esq.
Captain H. S. Bagnall.	Captain R. Hilton.
Captain O. G. Body.	Captain F. S. Corke.
Captain K. G. McLean.	Captain J. R. H. Tweed.
Captain C. L. Dunn.	Captain E. N. Clifton.

II.—**Examination.**

Books on military history and languages with dictionaries are available in the Library. The following list of books may be found useful for reference by officers studying for Promotion Examinations or entrance to the Staff College :—

(The list of books presented and purchased as shown in the Journal should also be consulted).

MILITARY HISTORY.

1. *The Campaign of the British Army in France and Belgium up to 20th November, 1914.*

A.—OFFICIAL HISTORY OF THE WAR.

Military Operations, France and Belgium, Vol. I (to October, 1914).

Military Operations, France and Belgium, Vol. II (to 20th November, 1914).

Sir John French's Despatches.

B.—OTHER BOOKS.

40 days in 1914 (General Maurice, new edition).

1914 (Viscount French).

My War Memories (Ludendorff).

General Headquarters, 1914—16, and its Critical Decisions (Falkenhayn).

The March on Paris, 1914 (Von Kluck).

Ypres, 1914. (An official account) (German General Staff).

Oxford Pamphlets, August 1914. The Coming of the War. (Spencer Wilkinson).

Oxford Pamphlets, August 1914, Nos. VII and X.

Times Documentary History of the War, Vol. V, Military, Part I.

Times Documentary History of the War, Vol. VIII, Part III.

Der Grobe Krieg: Die Schlacht bei Mons (German General Staff).

Der Grobe Krieg: Die Schlacht bei Longwy (German General Staff).

Story of the Fourth Army (Montgomery).

2. *The Palestine Campaign.*

A.—OFFICIAL ACCOUNTS.

A Brief Record of the Advance of the Egyptian Expeditionary Force, 1919.

The Australian Imperial Force in Sinai and Palestine (H. S. Gullett).

The New Zealanders in Sinai and Palestine (Lt.-Col. C. G. Powles).
Yilderim (Dr. Steuber).

B.—OTHER BOOKS.

Allenby's Final Triumph (W. T. Massey).

How Jerusalem was Won (W. T. Massey).

Outline of the Egyptian and Palestine Campaigns, 1914-18
(Bowman-Manifold).

L'Attaque du Canal de Suez (Douin).

3. *The Gallipoli Campaign.*

Official Account : Official History of the War, Naval Operations,
Vols. II and III.

Gallipoli Campaign (Outline of Military Operations). By A
Student.

Official Despatches.

The Dardanelles (Callwell).

Experiences of a Dugout (Callwell).

Despatches from the Dardanelles (Ian Hamilton).

The Navy in the Dardanelles Campaign (Wemyss).

The World Crisis (Winston Churchill).

**4. *The Russo-Japanese War, 1904, up to and including the
Battle of Liao-Yang.***

A Staff Officer's Scrapbook (Ian Hamilton).

German Official Account.

Lectures on the Strategy of the Russo-Japanese War (Bird).

Question on the Russo-Japanese War (Brunker).

Official Account : The Russo-Japanese War (Naval and Military),
3 Vols., published by Committee of Imperial Defence.

Outline of the Russo-Japanese War (Ross).

A Study of the Russo-Japanese War (Chasseur).

My Experiences at Nan Shan and Port Arthur (Tretyakow).

Outline History of the Russo-Japanese War, 1904, up to the
Battle of Liao-Yang, with Questions and Answers (P. W.).

A short account of the Russo-Japanese War ("Footslogger").

An account of the Battle of Liao-Yang (with questions and 10
maps of examination purposes) (Bird).

5. *Organization of Army since 1868.*

A.—ORGANIZATION OF ARMY SINCE 1868.

History of British Army, by Fortescue, Vols. I to XI.

Outline of the Development of British Army, by Major-Genl. Sir W. H. Anderson.

Our Fighting Services, by Sir Evelyn Wood.

B.—FORCES OF THE EMPIRE.

* Notes on the land forces of the British Dominions, Colonies, Protectorates and Mandated Territories, 1925.

The Statesman's Year Book.

Army List.

Articles in Newspapers and Magazines, viz., R. U. S. I.

Army Quarterly, Journal of the U. S. I. of India, etc.

6. *Development and Constitution of the British Empire.*

A.—THE BRITISH EMPIRE.

Encyclopædia Britannica—(contains much concentrated information).

The Statesman's Year Book.

Whitaker's Almanack.

The Colonial Office List.

The Government of the British Empire (Jenks, 1923).

The Foundation and Growth of the British Empire (J. A. Williamson, 1918).

The Beginnings of English Overseas Enterprise (Sir C. P. Lucas, 1917).

The British Empire Series. (XII volumes).

The Government of England (L. A. Lowell, 1912).

The Expansion of the British Empire (W. H. Woodward, 1921 and 1924 edition).

Overseas Britain (E. F. Knight, 1907).

The Origin and Growth of the English Colonies and of Their System of Government (H. E. Egerton, 1903).

A Short History of Politics (Jenks, 1900).

The English Constitution (Bagehot, 1909).

The Expansion of England (Sir J. Seely, 1883).

* Particularly recommended by the C. I. G. S. for all officers to read.

Introduction of the Study of the Law of the Constitution (A. V. Dicey, 1908).

England in the Seven Years' War (Sir J. Corbett, 1907).

Selected Speeches and Documents on British Colonial Policy, 2 Vols. (A. B. Keith, 1918).

B.—BOOKS ON SPECIAL PORTIONS OF THE EMPIRE OR WORLD.

The Rise and Expansion of British Dominions in India (Sir A. C. Lyall, 1894).

A Brief History of the Indian Peoples (Sir W. H. Hunter, 1907).

The Nearer East (Hogarth, 1902).

Modern Egypt (Cromer, 1908).

Egypt and the Army (Elgood, 1924).

The History of Canada (W. L. Grant).

Nova Scotia (B. Wilson, 1911).

Report on British North America (Sir C. P. Lucas).

The Union of South Africa (R. H. Brand, 1909).

Short History of Australia (E. Scot).

History of the Australasian Colonies (Jenks, 1912).

The English in the West Indies (J. A. Froude, 1888).

The Lost Possessions of England (W. F. Lord, 1896).

7. Military Geography.

Naval and Military Geography of the British Empire (Dr. Vaughan Cornish, 1916).

Imperial Military Geography (Capt. D. H. Cole, 1926).

Introduction of Military Geography (Col. E. S. May).

Imperial Defence (Col. E. S. May).

Main Feature of the Japanese and other Pacific Problems.
(Reprinted from *Morning Post*. Sifton Præd).

Britain and the British Seas (H. J. Makinder, 1907).

Military Geography (Macguire).

Imperial Strategy (Repington).

War and the Empire (H. Foster).

Historical Geography of British Colonies (Dominions), 7 Vols.

(Sir C. P. Lucas, 1906-17)—

- Vol. 1, Mediterranean.
- Vol. 2, West Indies.
- Vol. 3, West Africa.
- Vol. 4, South Africa.
- Vol. 5, Canada.
- Vol. 6, Australia.
- Vol. 7, India.

The Influence of Sea Power on History (A. T. Mahan, 1890).

Historical Geography of the British Empire (Hereford George).

The Mastery of the Pacific (A. R. Colquhoun, 1902).

Frontiers (C. B. Fawcett, 1918).

8. *Foreign Armies.*

OFFICIAL.

- * Handbook of the United States Army, 1924.
- * Handbook of the Army of the Netherlands, 1922.
- * Handbook of the French Army, 1925.

9. *Tactical.*

Common mistakes in the solution of tactical problems and how to avoid them (Lieut.-Colonel A. B. Beauman, 1926).

Historical illustrations to Field Service Regulations, Vol. II (Major E. G. Eady, 1926).

Elementary tactics or the art of war, British School (Major R. P. Pakenham-Walsh, 1926).

III.—Payment for Articles in the Journals.

Articles accepted for publication in the Journal are paid for, and a sum of approximately Rs. 500 is awarded for articles and reviews published in each Quarterly Journal.

IV.—Contributions to the Journal.

Articles submitted for publication must be typed in *duplicate*. With reference to Regulations for the Army in India, paragraph 204 and King's Regulations, paragraph 509, action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee.

*NOT to be removed from the library.

Instructions for the preparation of drawings and plans for reproduction by lithography.

These should be in *jet* black. No washes or ribands of colour should on any account be used.

If it is absolutely necessary to use colour (and these are only permissible in line work or names) the following will reproduce photographically, *i. e.* :—

Dark red, dark orange, dark green. No other colour should on any account be used.

V.—Library Rules.

1. The Library is only open to members and honorary members of the United Service Institution of India. Members are requested to look upon books as not transferable to their friends.

2. No book shall be taken from the Library without making the necessary entry in the register. Members residing permanently or temporarily in Simla are requested to enter their addresses.

3. The United Service Institution of India is open all the year round—including Sundays—from 9 A.M. until sunset. Books may be taken out at any time provided Rule 2 is complied with.

4. A member shall not be allowed, at one time, more than three books or sets of books.

5. Papers, magazines, "works of reference" or books marked "Not to be taken away," or noted as "Confidential" may not be removed.

6. No particular limit is set as to the number of days for which a member in Simla may keep a book, the Council being desirous of making the library as useful as possible to members; but if after the expiration of a fortnight from date of issue it is required by any other member it will be re-called.

7. Applications for books from members at out-stations are dealt with as early as possible, and books are despatched per Registered V. P. P. They must be returned carefully packed per Registered Parcel Post within one month of date of issue.

8. If a book is not returned at the end of one month, it must be paid for without the option of return, if so required by the Executive Committee.

9. Lost and defaced books shall be replaced at the cost of the member to whom they were issued. In the case of lost books which are out of print the value shall be fixed by the Executive Committee, and the amount, when received, spent in the purchase of a new book.

10. The issue of a book under these rules to any member implies the latter's compliance with the rules, and the willingness to have them enforced, if necessary, against him.

11. A list of all books presented and purchased, and also a list of books useful to members studying for the Staff College and Promotion Examinations, will be found under Secretary's Notes in the quarterly issue of the U. S. I. Journal.

12. Members are invited to contribute presents of books, maps, and photographs of naval and military interest. These may be addressed to the Secretary, U. S. I. of India, Simla. They will be duly acknowledged.

VI.—Library Catalogue.

The catalogue is completed to 31st March 1924. Price Rs. 3-8-0 or postage paid Rs. 3-14-0. An addendum will shortly be published bringing it up-to-date.

VII.—Army List Pages.

The U. S. I. is prepared to supply members and units with manuscript or type-written copies of Indian Army List pages, at the rate of Rs. 2 per manuscript or type-written page.

VIII.—

BOOKS PRESENTED.

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. The Military Genius of Abraham Lincoln. (Presented by the Oxford University Press.)	1926	C. R. Ballard.
2. The Last battle of Panipat .. (Presented by the Oxford University Press.)	1926	H. G. Rawlinson.
3. Royal Engineers Work in the European War, 1914-18. (Presented by the R. E. Institution Chatham.)	1926	G. H. Adison.

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
4. Notes on Training for War. Staff College. (Presented by Messrs. Hugh Rees, London.)	1927	A. Kearsley.
5. Story of the World at War .. (Presented by Messrs. W. Blackwood & Sons, Ltd., London.)	1926	M. B. Syngé.
6. Historical Record of the 6th Gurkha Rifles, 1917-1919. (Presented by the Officers of the 8th Gurkha Rifles.)	1926	D. G. J. Ryan.
7. India, 1925-26 ..	....	J. Coatman.
8. The 28th Light Cavalry in Persia and Russian Turkistan, 1915-20. (Presented by the Adjutant, 7th Light Cavalry.)	1926	J. A. G. Kreyer & G. Uloth,
9. Life of Lt.-General H. H. Pratap Singh. (Presented by the Oxford University Press, Bombay.)	1926	R. B. Van Wart.
10. Report on the Southern Command Staff Exercises, 1926.	1927	Official.
11. Report of the Indian Sandhurst Committee, 1926. (Presented by the Central Publication Branch, Calcutta.)	1927	Official.
12. Basic Principles of Air Warfare .. (Presented by Messrs. Gale and Polden, Ltd., Aldershot.)	1927	Squadron Leader.
13. Vade-Mecum. Field-General Court Martial. (Presented by Messrs. Gale & Polden, Ltd., Aldershot.)	1927	O. M. F. Frost.
14. Tactical Schemes from Platoons to Brigades with Solutions and Notes. (Presented by Messrs. Gale and Polden, Ltd., Aldershot.)	1927	A. Kearsley.
15. Officers of the Bengal Army, 1758-1834. (Presented by the Oxford University Press Bombay.)	1927	V. C. P. Hodson.

BOOKS PURCHASED.

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. The Twilight of the White Races	1926	Maurice Muret.
2. A Short Life of Marlborough ..	1926	H. J. Edwards.
3. Australia and Back ..	1926	Alan Cobham.
4. Secret and Confidential ..	1926	W. H. H. Waters.
5. Soldiers and Statesman 1914—18. 2 Volumes.	1926	William Robertson.
6. Modern Pig Sticking	1914	A. F. Wardrop.
7. The World Crisis, 1916—18. Parts I and II.	1926	Winston S. Churchill.
8. The V. C. and D. S. O. Complete Record. 3 Volumes.	1926	O'Moore Creagh.
9. Kaiser Wilhelm II	1926	Emil Ludwig.
10. Forty Days in 1914. (Revised edition).	1926	F. Maurice.
11. Imperial Military Geography ..	1926	D. H. Cole.
12. Notes on Training for War Territorials	1927	A. Kearsey.
13. Notes on Training for War, Pro- motions.	1927	A. Kearsey.
14. Notes and Lectures on the Meso- potamia Campaign.	1927	A. Kearsey.
15. The Indian Year Book, 1927.		
16. Who's Who, 1927.		

BOOKS ON ORDER.

1. Leaves from a Viceroy's Note-book	..	Lord Curzon.
2. Air Facts and Problems ..	..	Lord Thompson.
3. The Great Delusion ..	..	Neon.
4. Land, Sea and Air ..	..	Admiral Mark Kerr.
5. The Study of War for Statesmen and Citizens.		Major-General Sir G. Aston.
6. The Complete Lawn Tennis Player	..	Wallis Myers.

IX.—Pamphlets.

The following may be obtained by V.-P. P., plus postage, on application to the Secretary :—

- (a) British and Indian Road Space Tables (separately). As. 12 each.
- (b) Diagram of Ammunition Supply (India). As. 4.
- (c) Home War Establishment Tables (provisional). Re. 1-4-0.
- (d) Diagram showing new system of maintenance in the field at Home. As. 8.
- (e) Military Law Paper, questions and answers. As. 4. (As used at the A. H. Q. Staff College Course, 1926).

X.—Schemes.

The schemes in the Institution have been considerably increased and in order to simplify their issue they have been classified and numbered as follows :—

They can all be obtained by V.-P. P. plus postage, on application to the Secretary.

- (A) *Administrative Exercise* (with diagram) .. Rs. 2.
 To illustrate the supply system of a Division.
 Suitable for Staff College or promotion.
- (B) *Mountain Warfare* Rs. 5 each.

- (i) Three lectures on Mountain Warfare.
- (ii) A scheme complete with Map and Solution.

- (C) *New Staff College Series* (1926) .. Rs. 5 each.

Each of these schemes is complete with map, solution and reasons. Each scheme contains three situations.

- (i) Approach March.
 Reconnaissance of night attack.
 Orders for night attack.
- (ii) Outposts.
 Defence.
 Action of a Force retiring.
- (iii) Move by M. T.
 Occupation of a defensive position.
 Counter-attack.
- (iv) Tactical Exercise without troops.
 Reconnaissance for attack.
 Attack orders.

(D) *Promotion Series* Rs. 5 each.

Each of these schemes is complete with map and solution.

Lieutenant to Captain—

(i) Mountain Warfare.

(ii) Defence.
Attack orders.

Captain to Major—

(i) Outpost.
Defensive position.
Withdrawal.

(ii) Tactical Exercise without troops.
Reconnaissance.
Attack orders.

(E) *Staff College Course Schemes (1926).*

(i) A set of three schemes, as given at the A. H. Q. Staff College Course, 1926, complete with map and solutions. *Complete set Rs. 6.*

A limited number of the following papers are available :—

- (ii) Tactical Exercise without troops (with map and solution) Rs. 3-8.
- (iii) Outpost problem (with map and solution) ..Rs. 3
- (iv) Rearguard scheme (with map and solution) ..Rs. 3.
- (v) Organisation and Administration paper (with solution) Rs. 2.

(F) Copies of the recent (February 1927) Staff College Examination papers are available :—

- Training for war papers (with maps)Rs. 3 each.
- Other papers Re. 1 ..

(G) Course of five lectures given at the London School of Economics, 1925, on "Transportation in War" ..As. 12 each.

Staff College Course Schemes (1927).

(H) Set of 3 Schemes, as given at the A. H. Q. Staff College Course, 1927, complete with maps and solutions will be available from 1st August 1927 ..Rs. 3 per Scheme.

Efforts are being made to compete with demands for tactical schemes from officers working for the Staff College and Promotion Examinations by introducing as many new schemes as possible.

It is obviously impossible for the Secretary to undertake the correction of individual solutions, but all the recent schemes include a suggested solution in the form in which it is considered that the paper should have been answered with reasons for the solution given.

Officers are recommended to work all their schemes against time and to get into the habit of the methodical allotment of time to the various questions asked.

Prize Essay Gold Medalists.*(With rank of Officers at the date of the Essay.)*

- 1872..ROBERTS, Lieut.-Col. F. S., V.C., C.B., R.A.
 1873..COLQUHOUN, Capt. J. S., R.A.
 1874..COLQUHOUN, Capt. J. S., R.A.
 1879..ST. JOHN, Maj. O.B.C., R.E.
 1880..BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882..MASON, Lieut. A. H., R.E.
 1883..COLLEN, Maj. E. H. H., S.C.
 1884..BARROW, Capt. E. G., 7th Bengal Infantry.
 1887..YATE, Lieut. A. C., 27th Baluch Infantry.
 1888..MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., 24th Punjab Infantry (specially awarded a silver medal).
 1889..DUFF, Capt. B., 9th Bengal Infantry.
 1890..MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891..CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893..BULLOCK, Maj. G. M., Devonshire Regiment.
 1894..CARTER, Capt. F. C., Northumberland Fusiliers.
 1895..NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896..BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897..NAPIER, Capt. G. S. F., Oxfordshire Light Infantry.
 1898..MULLALY, Maj. H., R.E.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899..NEVILLE, Col. J. P. C., S.C.
 1900..THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R. E. (specially awarded a silver medal).
 1901..RANKEN, Lieut.-Col. G. P. P., 46th Punjab Infantry.
 1902..TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903..HAMILTON, Maj. W. G., D.S.O., Norfolk Regiment.
 BOND, Capt. R. F. G., R.E. (specially awarded a silver medal).
 1904..MACMUNN, Maj. G. F., D.S.O., R.F.A.
 1905..COCKERILL, Maj. G. K., Royal Warwickshire Regiment.
 1907..WOOD, Maj. E. G. M., 99th Deccan Infantry.
 1908..JEUDWINE, Maj. H. S., R.A.
 1909..MOLYNEUX, Maj. E. M. J., D.S.O., 12th Cavalry.
 ELSMIE, Maj. A. M. S., 56th Rifles, F. F. (specially awarded a silver medal).
 1911..MR. D. PETRIE, M.A., Punjab Police.
 1912..CARTER, Maj. B. C., The King's Regiment.
 1913..THOMSON, Maj. A. G., 58th Vaughan's Rifles (F. F.).
 1914..BAINBRIDGE, Lieut.-Col. W. F., D.S.O., 51st Sikhs (F. F.).
 NORMAN, Maj. C. L., M.V.O., Q.V.O., Corps of Guides (specially awarded a silver medal).
 1915..No Award.
 1916..CRUM, Maj. W. E., V.D., Calcutta Light Horse.
 1917..BLAKER, Maj. W. F., R.F.A.
 1918..GOMPERTZ, Capt. A. V., M.C., R.E.
 1919..GOMPERTZ, Capt. M. L. A., 108th Infantry.
 1920..KEEN, Lt.-Col. F. S., D.S.O., 2/15th Sikhs.
 1921..No Award.
 1922..MARTIN, Maj. H. G., D.S.O., O.B.E., R.F.A.
 1923..KEEN, Colonel F. S., D.S.O., I.A.
 1926..DENNY, Major L. E., M.C., 4/12th Frontier Force Regiment.

MACGREGOR MEMORIAL MEDALS.

1. The MacGregor Memorial Medal was founded in 1888 as a memorial to the late Major-General Sir Charles MacGregor. The medals are awarded for the best military reconnaissances or journeys of exploration of the year.

2. The following awards are made annually in the month of June :—

(a) For officers—British or Indian—silver medal.

(b) For soldiers—British or Indian—silver medal, with Rs. 100 gratuity.

3. For specially valuable work a gold medal may be awarded in place of one of the silver medals, or in addition to the silver medals, whenever the administrators of the fund deem it desirable. Also the Council may award a special additional silver medal, without gratuity, to a soldier, for special good work.

4. The award of medals is made by His Excellency the Commander-in-Chief, as Vice-Patron, and the Council of the United Service Institution who were appointed administrators of the Fund by the MacGregor Memorial Committee.

5. Only officers and soldiers belonging to the Army in India (including those in civil employ) are eligible for the award of the medal.*

6. The medal may be worn in uniform by Indian soldiers on ceremonial parades, suspended round the neck by the ribbon issued with the medal.†

Note.

(i) Personal risk to life during the reconnaissance or exploration is not a necessary qualification for the award of the medal; but in the event of two journeys being of equal value, the man who has run the greater risk will be considered to have the greater claim to the reward.

(ii) When the work of the year has either not been of sufficient value or has been received too late for consideration before the Council Meeting, the medal may be awarded for any reconnaissance during previous years considered by His Excellency the Commander-in-Chief to deserve it.

MacGregor Memorial Medalists.

(With rank of officers and soldiers at the date of the Award.)

1889..BELL, Col. M.S., V.C., R.E. (specially awarded a gold medal).

1890..YOUNGHUSBAND, Capt. F. E., King's Dragoon Guards.

* *N. B.*—The terms "officer" and "soldier" include those serving in the British and Indian armies and their reserves, also those serving in Auxiliary Forces, such as the Indian Auxiliary and Territorial Forces and Corps under Local Governments, Frontier Militia, Levies and Military Police, also all ranks serving in the Indian State Forces.

† Replacements of the M. M. ribbon may be obtained on payment from the Secretary, U. S. I., Simla.

MacGregor Memorial Medalists—(contd.).

- 1891..SAWYER, Major H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892..VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGGAT SINGH, Havildar, 19th Punjab Infantry.
- 1893..BOWER, Capt. H., 17th Bengal Cavalry (specially awarded a gold medal).
 FAZALDAD KHAN, Dafedar, 17th Bengal Cavalry.
- 1894..O'SULLIVAN, Major G. H. W., R.E.
 MULL SINGH, Sowar, 6th Bengal Cavalry.
- 1895..DAVIES, Capt. H. R., Oxfordshire Light Infantry.
 GANGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896..COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Sepoy, Q. O. Corps of Guides.
- 1897..SWAYNE, Capt. E. J. F., 10th Rajput Infantry.
 SHAHZAD MIR, Dafedar, 11th Bengal Lancers.
- 1898..WALKER, Capt. H. B., Duke of Cornwall's Light Infantry.
 ADAM KHAN, Havildar, Q. O. Corps of Guides.
- 1899..DOUGLAS, Capt. J. A., 2nd Bengal Lancers.
 MIHR DIN, Naik, Bengal Sappers and Miners.
- 1900..WINGATE, Capt. A. W. S., 14th Bengal Lancers.
 GURDIT SINGH, Havildar, 45th Sikhs.
- 1901..BURTON, Maj. E. B., 17th Bengal Lancers.
 SUNDAR SINGH, Colour Havildar, 31st Burmah Infantry.
- 1902..RAY, Capt. M. R. E., 7th Rajput Infantry.
 TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
- 1903..MANIFOLD, Lieut.-Col. C. C., I.M.S.
 GHULAM HUSSAIN, Lance-Dafedar, Q. O. Corps of Guides.
- 1904..FRASER, Capt. L. D., R.G.A.
 MOGHAL BAZ, Dafedar, Q. O. Corps of Guides.
- 1905..RENNICK, Maj. F., 40th Pathans (specially awarded a gold medal).
 MADHO RAM, Havildar, 8th Gurkha Rifles.
- 1906..SHAHZADA AHMAD MIR, Risaldar, 36th Jacob's Horse.
 GHAFUR SHAH, Lance-Naik, Q. O. Corps of Guides Infantry.
- 1907..NANGLE, Capt. M. C., 92nd Punjabis.
 SHEIKH USMAN, Havildar, 103rd Mahratta Light Infantry.
- 1908..GIBBON, Capt. C. M., Royal Irish Fusiliers.
 MALANG, Havildar, 56th Punjab Rifles.
- 1909..MUHAMMAD RAZA, Havildar, 106th Pioneers.

MacGregor Memorial Medalists—(*concl'd.*).

- 1910.. **SYKES**, Maj. M., C.M.G., late 2nd Dragoon Guards (specially awarded a gold medal).
TURNER, Capt. F. G., R.E.
KHAN BAHADUR SHER JUNG, Survey of India.
- 1911.. **LEACHMAN**, Capt. G. E., The Royal Sussex Regiment.
GURMUKH SINGH, Jemadar, 93rd Burmah Infantry.
- 1912.. **PRITCHARD**, Capt. P. P. A., 83rd Wallahjabad Light Infantry (specially awarded a gold medal).
WILSON, Lieut. A. T., C.M.G., 32nd Sikh Pioneers.
MOHIBULLA, Lance-Dafedar, Q. V. O. Corps of Guides.
- 1913.. **ABBAY**, Capt. B. N., 27th Light Cavalry.
SIRDAR KHAN, Sowar, 39th (K. G. O.) Central India Horse.
WARATONG, Havildar, Burmah Military Police (specially awarded a silver medal).
- 1914.. **BAILEY**, Capt. F. M., I.A. (Political Department).
MORSHEAD, Capt. H. T., R.E.
HAIDAR ALI, Naik, 106th Hazara Pioneers.
- 1915.. **WATERFIELD**, Capt. F. C., 45th Ratnayatna's Sikhs.
ALI JUMA, Havildar, 106th Hazara Pioneers.
- 1916.. **ABDUR RAHMAN**, Naik, 21st Punjabis.
ZARGHUN SHAH, Havildar, 58th Rifles (F. F.) (specially awarded a silver medal).
- 1917.. **MIAN AFRAZ GUL**, Sepoy, Khyber Rifles.
- 1918.. **NOEL**, Capt. E. W. C. (Political Department).
- 1919.. **KEELING**, Lt.-Col. E. H., M.C., R.E.
ALLA SA, Jemadar, N.-E. Frontier Corps.
- 1920.. **BLACKER**, Capt. L. V. S., Q. V. O. Corps of Guides.
AWAL NUB, C. Qm. Havildar, 2nd Bn., Q. V. O. Corps of Guides. (Special gratuity of Rs. 200.)
- 1921.. **HOLT**, Major A. L., Royal Engineers.
SHER ALI, Sepoy No. 4952, 106th Hazara Pioneers.
- 1922.. **ABDUL SAMAD SHAH**, Capt., O.B.E., 31st D. C. O. Lancers;
NUB MUHAMMAD, Lance-Naik, 1st Guides Infantry, F. F.
- 1923.. **BRUCE**, Capt. J. G., 2/6th Gurkha Rifles.
SOHBAT, Head Constable, N. W. F. Police.
HARI SINGH THAPA, Survey Department.
- 1924.. **HAVILDAR RAHMAT SHAH**, N. W. F. Corps.
NAIK GHULAB HUSSAIN, N. W. F. Corps.
- 1925.. **SPEAR**, Captain C. R., 5/13th Frontier Force Rifles.
JABBAR KHAN, NAIK, 5/13th Frontier Force Rifles.
- 1926.. **HARVEY-KELLY**, Major C. H. G. H., D.S.O., 4/10th Baluch Regiment.

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EDITORIAL.

The last few months have been remarkable for the number of attempts which have been made to break the existing flying records.

Pride of place must, of course, be given to the American airman's wonderful achievement in crossing the Atlantic, though the gallant attempt of two R. A. F. officers to make a non-stop flight to India, which was so nearly successful, must be placed a good second.

Modern inventions are certainly bringing us nearer Home every year and it is difficult to realise that a voyage to India used to take over six months.

The disappearance, and now almost certain deaths, of Captain Nungesser and F/O Cocks serve to remind us that we have still a long way to go before we may be said to have conquered the air. The element of risk, is however, gradually diminishing, and, although the number of fatal flying accidents are still considerable, they are really insignificant in comparison with the number of hours flown.

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Experiments are being carried out at Home in the organization of a Cavalry regiment and Infantry battalion.

The most interesting item of organization is the increase of machine-guns in infantry battalions from 8 guns to 12. This has given rise to a certain amount of discussion on the old subject of whether the machine-gun should not be taken away from battalions and separate machine-gun companies and battalions formed. It is quite possible, in fact probable, that this procedure may be resorted to again in war, although a certain number of guns would probably

still be left with battalions, but there would be considerable difficulty in adopting it in peace. Barrack accommodation, extra expense, and the system of relief of battalions between Home stations and abroad would prove stumbling blocks.

The retention of the Lewis gun is a question which continues to give rise to considerable controversy. There is no doubt that the Lewis gun is not an ideal platoon weapon for mobile warfare. It does restrict the mobility of the platoon and makes one more weapon for the already over-burdened infantry soldier to be taught. This especially applies to our short service Indian Army, where so much has to be taught in such a short time, and it must be an added difficulty for reservist training. As long as the Lewis gun is a platoon weapon reservists should have training in it, as well as in the rifle, and yet, in the short period of the annual reservist training, it is doubtful whether there is really time to include both rifles and Lewis gun training and give the necessary drill and general smartening up, which are so essential for the Indian soldier who has been away from the Colours for any length of time.

The solution to the problem is undoubtedly the introduction of the automatic rifle but there appears to be no prospect of this materialising for some time to come.

* * * * *

The last two volumes of Mr. Winston Churchill's book "The World Crisis" have caused widespread interest and comment. A review of the book appears in this journal; it is certainly brilliantly written and a real pleasure to read, besides containing comments and descriptions of the higher problems of the war which very few other living Englishmen can be so well qualified to write. The author's views on the strategy of the war are of peculiar interest if read side by side with those expressed by Field Marshal Sir William Robertson in his "Soldiers and Statesmen."

The latter advocated strict adherence to the principle of concentration of superior numbers at the decisive point. He deprecated all "side shows" and continuously affirmed that the war must be won on the Western front and there alone. He considers that the expenditure of men and material in 1917 on the Mesopotamia, Palestine and Salonica fronts were the reason of our being in a numerical inferiority in France in March 1918 and nearly losing the war.

Mr. Winston Churchill, on the other hand, maintains that, when we definitely found ourselves, on the Western front, up against a continuous line of entrenchments, barbed wire and machine-guns, without any really decisive superiority in numbers or armament, we should have been content to contain the enemy in France and use all our strength to prosecute the war on the "open fronts." He points to the amount of success achieved in these so-called "side shows" with the comparatively small numbers of men and guns set free from the vortex in France. Above all he decries the costly attacks made by us in France in 1917, particularly after the Americans came into the war when, he affirms, we should have sat still and built up a really decisive offensive.

Perhaps the most interesting part of the book is that dealing with the proposals for the grand offensive in 1919 which was to have been launched had the war not come to an end somewhat unexpectedly in 1918. It had been decided that we should go very large on tanks, cross-country vehicles, and gas; in fact the experience of 4 years of war had decided our leading soldiers and statesmen that we should rely on a very much more mechanized force for our decisive blow. The mechanization enthusiasts have here a weighty argument for the speeding up of our post-war mechanization policy.

A point which strikes the ordinary soldier on reading a book like this, and also Sir William Robertson's book, is the way in which individual members of Parliament felt impelled from time to time to address the Prime Minister on the strategy and conduct of the war generally. To us it would seem out of place for an officer of the general staff to submit unasked a detailed memorandum on the supply system or for an officer on the Q side to criticise the tactical dispositions of the troops—certainly one of the greatest trials of a Prime Minister in war time must be the multitude of his would be advisers. The character sketches of the great figures of the war, both allied and German, military and civilian, add greatly to the general interest of the book. In certain cases they are perhaps a little harsh but the author's faculty for vivid description makes them stand out clearly as he saw them.

The first volume brings home to one the enormous losses suffered by the French in the first few days of the war when, clad in their entirely unsuitable and conspicuous uniforms, and filled with the

spirit of the offensive which had been drilled into them for years, they flung themselves against the better equipped and more numerous German armies. We were so concerned with the precarious position of our own little Expeditionary Force that the appalling losses suffered by the Eastern Wing of the French armies were perhaps, not fully realised.

* * * * *

More details are now available concerning the organization of the 7th Experimental Brigade at Tidworth. The Brigade is not under command of Colonel Fuller, as stated in our last Editorial, but under Colonel Collins, late Director of Military Training in India.

One battalion will be mechanized and will consist of a headquarter wing and 3 machine-gun companies, each of 12 machine-guns. The transport consists of half-track 30 cwt. lorries and half-track light cars.

The three remaining battalions are normal, except that each platoon consists of 3 Lewis gun sections and no rifle section, and the machine gun platoon has 12 machine guns and two anti-tank half-inch machine guns. The transport of one of these battalions is mechanized.

* * * * *

The Indian papers have lately contained articles on the value or otherwise of alcohol as a food and the dangers of the use of tobacco.

Eminent physicians appear to differ on these debatable points and it is interesting to examine the question from an entirely non-medical-expert point of view with regard to the effect of stimulants generally on the efficiency of the soldier.

Our 1914 British Expeditionary Force, generally acknowledged to be the finest body of men we have ever put into the field, drank more and smoked less than the present day British Army. There were certainly more beer drinkers but far fewer cigarettes were smoked and, certainly at Aldershot, cigarette smoking on the march was absolutely forbidden.

During the war most nations found that some form of stimulant was necessary. The Germans at one time used to drug their men before an attack with not altogether satisfactory results. When the effects wore off, depression and uncertainty were apt to take their place.

The British rum ration was, to the infantry soldier sitting in a wet trench, one of the bright spots of the war and, was an undoubted asset to the moral and well-being of the soldier.

Last, but not least, the Indian opium-eater had his ration of opium in France, although to overcome the objection of certain personages at Home it had to be issued under the pseudonym of "treacle." Taken in strict moderation opium may be a valuable military drug—on certain occasions on the front of the Lahore Division in May 1915 many dangerously wounded British soldiers who had been left in the trenches mostly with severe stomach wounds, were safely evacuated after a small opium pill, when a dose of rum would have killed them off.

There are, of course, excessive opium-eaters, just as there are excessive drinkers and excessive smokers, and excess in any form is bad ; there is little doubt, however, that the abnormal strain on the nerves caused by the conditions of modern war make some sort of stimulant, administered in strict moderation, an asset to the fighting value of the soldier.

The post-war British soldier drinks much less alcohol but a quantity of "soft" and fizzy drinks and smokes far more virginian cigarettes than his predecessor of 1914.

* * * * *

The value of education to the private soldier, both British and Indian, is becoming better realised every day.

There was, a short time ago, a large body of opinion against education in the Army on the grounds that there is not sufficient time for it as well as for purely military training and that the soldier is better without it.

There is no doubt that it is extremely difficult to find time to educate the soldier as well as to train him during his comparatively short period of service with the colours, but the necessity for such educational training becomes more apparent every year. It should be our object to train every man to be a potential N.-C. O. and this is impossible without a high general standard of education.

We have really only just started our educational training in the Indian Army and there are many initial difficulties and obstacles which are being gradually overcome. Youth is the time to learn—the younger a man is the more quickly will he assimilate new ideas

and the easier will he find it to remember them. The "Y" Cadets chosen by the War Office for an education at Sandhurst and subsequent commission are not chosen from the old N.-C. O's. of the sergeant-major type but from the young lance-corporals and corporals of under 23 years of age.

Unless the age of our Viceroy's Commissioned Indian Officers is considerably lowered their education is going to be a difficult problem.

* * * * *

The results of the 1927 Staff College Examination have now been received.

48 Indian Army Officers qualified for the two nominations at Camberley and for two at Quetta. The small number of nominations available at the latter College was due to only one British Service Officer being included in the 15 competitive vacancies allotted to "other arms"—no less than 14 of these vacancies being taken by Indian Army.

In spite of the examination for British Service Officers at Camberley being thrown open to all arms, with no closed vacancies, only one R. E. Officer and one R. A. Officer on the Indian Establishment passed in, out of the four places secured by officers in India. The Home results have not yet been received but it was generally expected that the R. E. and R. A. would sweep the board.

The Simla "Backward Boys" came quite creditably out of the examination. Their results were—

	2	passed Camberley.
	7	qualified Camberley.
	4	passed Quetta.
	3	qualified Quetta.
<hr/>		
Total	..16	
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or 35 per cent. successes of those who went up for the examination.

The course this year will be a somewhat larger one ; spare copies of the tactical schemes used on the course will be available from the U. S. I. for those officers who have been unable to get up to Simla for it.

AIR LINES OF COMMUNICATION.

SOME NOTES ON INDIA.

BY

Squadron Leader E. J. Hodson, R. A. F.

1. Introduction.—

The visit of the Secretary of State for Air in the new Imperial Airways Liner "City of Delhi" and the tour of his escorting machines the Vickers Victoria troopcarriers—gave us in India an opportunity of seeing what modern air transport machines are like; it turned our thoughts also to the uses to which heavy transport machines could be put in India.

It is a curious thing, that India, the largest of all the dominions in which the Royal Air Force is stationed, should be the only one to possess none of this type of aircraft. Iraq has a squadron of troopcarriers and so has Egypt; there are also squadrons at home. All these countries are tiny compared with India and it cannot for a moment be doubted that there must be many uses in India for aircraft of this type.

2. Past Experience in the use of troopcarrier aircraft.

Before considering in any detail India's needs, it is interesting to look back a few years and see what use has been made of troopcarrier aircraft in other commands. In 1921 a most interesting experiment was carried out in Egypt to demonstrate the transport of a mountain gun by air. Two Handley Page aeroplanes (0-400), of a type that are now obsolete it should be noted, were detailed for the experiment which was carried out in the presence of General Gorrington at Heliopolis; the following situation was visualized. Heliopolis was an isolated spot somewhere in the desert and a handful of troops were presumed to be sorely pressed by the enemy. A W-T post was erected at Heliopolis which was capable of communicating with a post 100 miles away where a mountain battery was located. A message was sent off and a section, which was actually located at Almaza, 2 miles away, was at once loaded in the two Handley Pages and arrived in due course, disembarked and went into action. Into one machine a mountain gun complete with 21 rounds of ammunition

and 2 gunners was loaded ; into the second 77 rounds and 4 gunners, giving a total of 1 mountain gun, 6 gunners and 98 rounds of ammunition.

The experiment was completely successful and with full load of petrol, that is, $6\frac{1}{2}$ hours, the Handley Page could carry a load of 2,246 lbs. including a machine crew of 3 in addition to the gun. It was further estimated that with 2 men from the gun crew and 2 from the aeroplane crew the gun could be off-loaded, assembled and ready to fire in 6 minutes.

This experiment conclusively proved in 1921, that it was perfectly feasible to take a gun by air and that given the requisite number of machines, a section or even a whole battery could be transported very rapidly from one place to another. No further developments, however, seem to have taken place, as far as the writer knows.

In Iraq, the Vickers troopcarriers have been of inestimable value and instances of the transport of troops, the evacuation of wounded and many similar services are too numerous to recapitulate ; they are, in fact, quite an ordinary occurrence. It is impossible to over-estimate the value of the quick despatch of troops in this manner. The evacuation of posts, cut off or isolated, has on more than one occasion saved many lives and often a great deal of money.

These few examples are sufficient to show that the value of the troopcarrying aeroplane, even in its present restricted size, is great and that it has proved its worth under the acid test of actual war-time conditions.

3. The tasks of the troopcarrying Aircraft.

The next thing is to consider what work the aerial troopcarrier can do now and what we may reasonably expect in the future. There are two aspects of this case, the broad or imperial one and the parochial or local one as it applies to each individual country.

(a). THE IMPERIAL ASPECT.

In regard to the Imperial aspect, this subject has been very clearly and fully dealt with in the "Memorandum on the Approach towards a System of Imperial Air Communications," submitted by the Secretary of State for Air to the Imperial Conference in 1926. These Imperial air communications may be by airship, aeroplane, seaplane or amphibian : of these four types of aircraft there is no doubt that

the airship is one of the greatest interest to us in India. It is not proposed to dwell at any length on this subject, which can be read in the Secretary of State's memorandum, but a few figures from page 22 of this book are of special interest.

It is calculated that the new giant airships now being built in England can, at an average speed of 50 miles per hour, accomplish the following journeys :—

England to Egypt in $2\frac{1}{2}$ days against 6 days by steamship.

England to Bombay in 5 days against 15 by steamship.

England to Perth (Australia) in 11 days against 28 by steamship.

These airships will be 722 feet long and 132 feet in diameter and will accommodate 100 passengers.

It is unnecessary to emphasize further the military value of a fleet of such vessels. Reinforcements could be sent to India in 5 days instead of 21 by slow transport ; a squadron of aeroplanes could be carried out ready erected and available for service immediately. Provided that mooring masts were available reinforcements could be taken to whatever place in India they were required thus saving 2 or more days in the train and all the time of disembarkation, rest camp, etc., and in considerably more comfort with increased fighting value on arrival. This is a picture which we hope will be true in another year's time : it is of course an imaginary picture at present, since airship development is still in its infancy and the building of these airships is purely experimental. If the hopes of the designers are fulfilled however the capabilities suggested above will be fully proved. In this event it is not too much to expect that in 10 years' time, or even less, we shall have vessels which can carry perhaps a battalion of infantry each. The advantages of such mobility will be enormous. Danger spots can be reinforced almost immediately, garrisons can be reduced in peace with subsequent economy, in fact we shall probably have an expeditionary force which will be a sort of Empire pool and which will be completely air mobile and ready to be rushed off to any part of the Empire at a moment's notice. It has been emphasised that today, or as soon as these vessels are completed, it should be possible to reach Australia from England in 11 days, South Africa in 6 days and Canada in $2\frac{1}{2}$ days ; in another 10 years' time these periods will be reduced and it should be possible to reach the farthest corner of the Empire in 6 days at the most.

In talking of the possibilities of airships one's mind automatically reverts to the exploits of the German Zeppelins during the last war and more especially to that very gallant flight which was made from Salonica, in 1917, a greater part of the way to German East Africa, with a view to relieving the beleaguered garrison there ; it was only due to the fact that they were forced to capitulate before the airship arrived that prevented this exploit from being entirely successful. As it was the airship was recalled by W-T when somewhere South of Khartoum and returned without mishap and without landing. It is almost a pity that the attempt was not completely successful ; it would have provided some very interesting data on the value of air reinforcements.

Before finally leaving this aspect of air lines of communications it is suggested that in the future, perhaps England will not be the most central place to keep the Empire Expeditionary Force pool and that it may be better to locate it a little farther east ; in all considerations of the air and communications, one cannot avoid being drawn towards Egypt as being the pivot of the Empire air routes.

(b). THE LOCAL ASPECTS.

Of equal interest to us in India is the local aspect of this problem ; in India, at present, we have no types of aircraft that are capable of carrying out the functions of troop carrying ; the most that the existing types can do is to transport individuals quickly from one place to another. Again, India is such an immense country that until it is possible to organise a day and night service to and from any part of the country, the full value of this newest link in the lines of communication cannot be obtained. A start will have to be made in experimenting with purely day flying and a few examples will be discussed from this aspect.

In looking round for services that the aeroplane can accomplish, one's attention is naturally drawn at once to the more or less isolated garrisons and political posts which must be maintained all over the frontier. Chitral, Kila Drosh, Gilgit, Razmak, Miranshah, Fort Sandeman and Western Baluchistan to name just a few and to ignore altogether the eastern frontier.

Chitral will afford, perhaps, a very good example and will be discussed in some detail. The normal garrison of Chitral and Kila Drosh consists of 1 section of Pack Artillery, 1 section of Sappers and

Miners, 1 Indian Infantry regiment and some odd details. In previous years this column during the process of reliefs, has required an escort, up and down, of a force of approximately the same size and in addition, a supporting column of considerable strength has been held in readiness to extricate the column should it get into difficulties. Incidentally the mobility of this supporting column has not been such that its help would be very effective for some considerable time. The column itself takes some 18 days to reach Kila Drosh, including the time taken to concentrate prior to the march and the relieved column a slightly less time to return. Last year, in actual fact, the relief column actually assembled at Dargai on September the 7th and the relieved column finally arrived back at Dargai on October 12th. More than one month was therefore taken up altogether, and a very considerable force of all arms was locked up during this period in a purely passive rôle, to the exclusion of all other duties and the interruption of their training season.

Now suppose this relief could be accomplished by air, what would be the result? It takes 1 hour 20 minutes, on an average, to fly from Risalpur to Kila Drosh instead of 16 days by road. No escorts of any sort are required, no previous concentration is necessary except to get the troops to the aerodrome from which they will start, either Risalpur or Peshawar. We have at present no heavy transport machines in India, but suppose we had a flight of 4 "Hercules" and suppose the landing ground at Kila Drosh can be made suitable for them to land on. If each machine can take 10 men with their equipment and each machine can do 3 or possibly 4 journeys a day, we shall have a total of 120 or 160 men a day changed over. All baggage and heavy equipment can be sent up by air as well but the majority, with the exception of personal luggage, will be already at Kila Drosh or Chitral and there will be no need, in the ordinary way, to move it. It will just be handed over from the outgoing to the incoming unit.

There are approximately 3,400 men to be moved during the relief and at a rate of 120 a day it would take 28 days instead of 36 and would entirely eliminate the services of something like 8,000 men who would have been required for protective or support duties. Further, there is no risk of any interference on the part of the tribesmen *en route*, and the officers and men, instead of

having to march for some 16 days, will reach their destination in complete or at any rate comparative comfort, in an hour and a half. The whole operation will become simplicity itself and the cost will be very materially decreased.

But there is a further and even more important point which develops logically from this example ; will it be necessary to keep so large a garrison there if reinforcements can be rushed up so quickly. Surely not. Also, it must be remembered that apart from the fact that reinforcements can be sent up so quickly there will always be available further air forces to take immediate offensive action against any hostile factions, so that the position is doubly secure.

This is one example which has been discussed at some length ; the same arguments will apply to other areas, as for instance the garrisons in Western Baluchistan, the political authorities in Gilgit. May it not be possible also to reduce the size of the regular garrisons in Waziristan, and elsewhere, concentrating the regular troops in certain areas only and relying on the air to reinforce any threatened area and also relying on the air force to take such immediate offensive action in the disturbed area as will relieve the situation either in part, until troops arrive, or will successfully compete with it on its own.

These proposals may sound altogether too futuristic to be of any practical value, but it is urged that this is not really so. Aircraft exist at present and have, in fact, demonstrated in India, which are capable of carrying 24 fully armed soldiers : it is admitted that the particular type in question is not suitable for India or rather for work on the frontier owing to its low performance, but other types exist or are being designed which will meet our requirements and it is not too soon to consider the ways in which they may be of service.

Then again, taking India and Burma as a whole, it will be possible to rush troops by air from one end of the country to the other to any threatened spot in a fraction of the time it will take by other means. Troops from Karachi or Bombay or Calcutta, for instance, could be brought to Delhi in 7 hours instead of taking from 24 to 36 hours.

It is admitted that there will be many problems connected with supply, etc., that will be raised by these proposals ; it is believed, however, that they are all of them capable of solution when they have been considered and worked out in detail.

So far only the personnel side of the question has been considered, but the material side is equally important and air lines of communica-

tion can be equally effective. The value of being able to supply a force without the need of employing enormous numbers of troops for the protection of the lines of communication needs no emphasis : the advantages of being able to transport a section of pack artillery or even a whole battery by air, from one place to another, are obvious and it should be remembered that such a battery could be kept supplied with ammunition. There is no end to the possibilities that this form of communication open out and it is urged that the time is ripe, if not already overdue, when these problems should receive serious consideration in the light of modern developments.

4. The Problem of the Supply of Aircraft.

It will be argued and quite rightly, that although in peacetime the supply of aircraft for use on the lines of communication may be adequate, in wartime the demands will entirely outbalance the supply and that no country can possibly afford to maintain in reserve, in peacetime, sufficient aircraft to meet all the demands in wartime. This contention is perfectly sound and an example is ready to hand. The wartime requirements of the army in motor transport bear very little relation to the establishments held in peacetime and the difficulty is overcome by subsidising, in peacetime, civil enterprise and by encouraging civil firms to produce types of vehicles which, while meeting service requirements, have also a commercial value. In this way a large reserve is built up in the country which will be available in time of war. We must do the same thing in regard to the air ; a flourishing civil air industry is indispensable to the proper fruition of these plans.

There is another point of importance which must not be neglected. The requirements in design, etc., for lines of communication aircraft must be kept separate from those required for other types of service machines. Their functions will be entirely separate, or rather they should be ; in times gone past and to some extent in the present, there has been and still is a tendency to regard any aircraft as being capable of doing almost everything. It is probably due to this that so little apparent progress has been made on this important problem of the substitution of aerial for existing lines of communication.

It is the writer's firm belief that one of the main values of civil aviation in the future will be to supply the machines for the lines of communication in war, just as the merchant service does. Certain

specially fast and otherwise suitable types of vessels of the merchant service are employed as armed cruisers, just as certain special types of civil aircraft will be turned into bombers or reconnaissance machines. The bulk of the civil air machines will not be so suitable for this kind of work however, in the writer's opinion, as is indeed the case with the merchant service, and it would seem that they will become the troopcarriers of the future; this possibility will be especially applicable to airships.

It will also take less time to equip civil machines for troopcarrying and duty on the lines of communication than it will take to convert them to bombers and it will also be much less expensive.

5. Conclusions.

This paper has set out to give some very general ideas only on the future possibilities of aerial lines of communication. India, due to her vast size, the special difficulties of warfare with which she has to contend on the frontier and her situation in regard to Imperial defence would seem to offer endless possibilities in this new realm. It has been shown earlier on in this paper that with the advent of airships it should be possible for a soldier to leave England on Monday and be in Karachi on Friday: it would be only logical in the end, that mooring masts should be erected at the more important military centres such as Peshawar, Rawalpindi, Quetta, Calcutta, Madras, Bombay, Rangoon and Mandalay. Reinforcements when required could then be taken direct, or almost direct to their destination and the saving of time will be greater still. At these centres they can then be transported by aeroplane to reinforce the threatened zone, if indeed any further movement forward is required.

Before these visions can become concrete facts however, India must experiment with some of the most modern types of heavy transport machines and she must also inaugurate a civil air industry.

Mobility is one of the principles of war: here surely is one solution of this vexed question. Mobility and a lack of vulnerable lines of communications are the chief weapons of the frontier tribesman, weapons with which he has often caused us much embarrassment in the past. Is the air going to prove the real solution of these age-old problems? The writer believes that it is, because we shall be far more mobile than the tribesmen ever can be and we shall have done away for ever, with that unfailing bait, a long and often vulnerable line of communications.

JAPANESE INFANTRY TRAINING.

AN APPRECIATION.

BY

Brevet Major B. R. Mullaly.

The changes in our own training manuals since the Great War make it not unprofitable to consider the post-war editions of the manuals of other armies.

Not the least interesting, and at the same time, on account of the language difficulty, one of the least known of these is the Provisional Infantry Regulations of the Japanese Army.

There is nothing secret in these regulations and they are as readily purchasable by the general public as our own infantry training.

Before publication the volume was the subject of protracted and exhaustive discussion and experiment and its final adoption was a signal success for the younger and modern school of thought in the Imperial Japanese Army, mainly represented by officers who had visited the Western Front during the war.

In the following pages an attempt is made to analyse the manual with a view to presenting its more important features and indicating the principal modifications which have been made to previous editions.

At the outset it is as well to remind the reader that, with the exception of the Tsingtao Expedition, the Japanese Army took no active part in the operations of the Great War, and that consequently, its training manuals are the result, not of first-hand experience, but of a study of the lessons of 1914-1918 from the standpoint of an outside observer.

Two other considerations should also be borne in mind ; namely, the national characteristics of the people, and the theatre in which the Japanese Army is most likely to be employed in the future.

As regards the former, perhaps the most outstanding feature is the essentially communistic character of the Japanese race.

The word is, of course, here used in its purest sense.

This characteristic finds its manifestation in the intense nationalism and perfervid patriotism which have raised the nation to its present position, and which are the motive power of the wonderful élan of the Japanese soldier, in whom the will to close with the enemy is as highly developed as in any other soldier in the world.

At the same time this quality differs at its very source from, for instance, the same quality in the British soldier.

The national character makes it, in its essence, a mass quality rather than an individual quality, derived more from the ingrained instinct of national cohesion than from self-reliance of the individual.

To this factor is attributable the reluctance to forego the stimulus of mass movement which is discernible in all training and which is reflected in the manual under review in the extremely cautious manner in which the importance of close order formations is modified.

With regard to the second point referred to above, a country of great spaces in which the movements of armies would not be circumscribed as was the case on the Western Front, an uncivilized countryside, and indifferent means of communication, are likely to be the main features of the most probable theatre of war in which the Japanese Army would be required to operate in the future.

All these considerations contribute to the fact that the infantry has always been in the past, is now, and will continue to be regarded as the premier arm of the Japanese Army.

Before proceeding to analyse the regulations it is necessary to note certain alterations in the infantry organization which have been rendered necessary by the introduction of new weapons and the lessons of the Great War.

The organization is mainly tripartite.

In peace the regiment consists of three battalions of three companies and one machine gun company, with, in addition, an infantry gun detachment.

In war the battalion consists of four companies and one machine gun company.

The company consists of three platoons and the platoon of two light automatic sections and four rifle sections.

The light automatic sections comprise 1 N.-C. O. and 5 men, and the rifle sections from 4 to 6 files.

The infantry gun detachment includes 37mm. guns and mortars. The use of these is discussed below.

The regulations are divided to three parts:—Part I, “Training”, Part II, “The Battle”, and Part III, Ceremonial and miscellaneous items of secondary training such as the use of the sword and revolver.

I.—Training.

The principles of individual training have undergone little alteration.

The outstanding feature of this chapter is the modification of the great importance which has, in the past, been attached to the maintenance of close order formations.

This is best illustrated by a comparison of the following translations of paragraphs of the present manual and the former edition.

Old Section 73.

“Formation in close order permits of preserving the cohesion of the troops whilst keeping them in the hands of the commander.

Where the enemy's fire is not very effective the troops take up position and move in close order”.

New Section 79.

“Close order maintains the cohesion of the troops and facilitates command.

Position is taken up and manoeuvre carried out as much as possible in close order *only in localities where the enemy's fire is not yet appreciable*”.

This decrease in the importance of close order has resulted in a certain modification of battle formations.

In the old regulations one “Fundamental Formation” Close Column of Platoons, and three “Eventual Formations”—Line of Platoons in column of Sections—Line, and Column of Route, were laid down, whereas in the new volume three formations only are contemplated—Close Column, Column of Route, and Line of Platoons in Fours.

Normal close order formations for the battalion are—Mass, Column, or Quarter-column.

For units above the battalion it is merely indicated that the lower units are either in mass or “in succession”.

Section training now includes the training of the light automatic section, the normal formations for which are File, Single File, or Arrow-head.

Close order formations for the platoon are Line, Column of Fours, Column or Close Column of Sections.

An interesting innovation is the position “Lying on the back” for fire at low flying aircraft.

II.—Infantry in Battle.

Part II of the manual, "Battle", is more in the nature of a work on general tactics than a treatise on infantry tactics as such.

It is divided into eight chapters as follows:—

- I. Essential rules of battle.
- II. Attack.
General principles.
The encounter battle.
Attack on an enemy in position.
- III. Defence.
- IV. Pursuit and retreat.
- V. Position warfare.
- VI. Mountain and river fighting.
- VII. Wood and village fighting.
- VIII. Infantry in action against other arms.

(a) The Platoon in Attack.

The platoon is the smallest self-contained unit combining the light automatic weapon and the rifle and bayonet, and is, therefore, the unit upon which infantry tactics are based.

It is the platoon commander's duty to co-ordinate the action of his light automatic and rifle sections in the light of the orders received from his company commander, and the normal method of deployment is to make the light automatics the framework upon which the attack is built up.

Thus the light automatic sections are the first to be deployed, usually to the flanks, and the intervals occupied by rifle sections.

The principle of economy of force is insisted upon and it is laid down that the minimum number of rifle sections only should be deployed at the outset and the maximum kept in the hands of the platoon commander as a reserve for as long as possible.

It is interesting to note that there appears to be a doubt in the minds of the compilers of the manual as to whether the platoon is not, as at present organized, too large for its rôle as the primary fighting unit.

This is suggested by passages such as the following: "Sometimes the platoon commander places several sections under the senior section commander for a special task."

The importance of the rifle sections affording protection to the light automatic sections, none of the numbers of which are armed with the rifle, is stressed and the platoon commander is required to detail rifle sections for this duty.

(b) *The Company in Attack.*

The normal formation of the company in the initial stage of the attack, after the assembly formation is broken up is a line of platoons in fours, the intervals varying in accordance with the nature of the ground, with a minimum of 30 metres.

The company commander is responsible for local protection and reconnaissance, and for the co-ordination and control of his platoons.

As it becomes necessary to increase distances and intervals, a "T" formation is adopted with two platoons leading.

The next stage in the deployment commences with the pushing out of the light automatics of the leading platoons, usually to the flanks, and the formation of the company in three lines at 100 metres distance.

Platoon commanders deploy as many sections as required by the ground and the intensity of the hostile artillery fire, keeping the maximum in hand for as long as possible.

When the point is reached beyond which further advance becomes impossible without firing, the formation of a "firing line" is proceeded with.

The use of this term is perhaps misleading in view of the archaic picture which our acceptance of it calls to mind, and it is only used as it is the exact translation of the term employed.

In actual practice the "firing line" envisages a zone of fire, organized in depth, the frame work of which is the light automatic section and the heavy machine guns, and the component parts of which advance by fire and movement, pin the enemy to his ground, and clear the way for the commander to manoeuvre his reserves.

From now on the advance is continued by fire and movement until the moment arrives for the delivery of the assault by the reserves which have been progressively brought forward.

At this stage it is the duty of commanders of forward companies to maintain the closest touch with battalion headquarters and with

neighbouring units, to keep up increasing pressure on the enemy and to endeavour to find his weakest point (note the "Soft Spot" tactic), allot lines of advance to platoons, and detail mopping-up parties, if necessary.

The assault is usually ordered by the battalion commander, but it is definitely laid down that company commanders must assault on their own initiative if opportunity offers.

The farthest edge of the enemy position is usually indicated as the objective and the principle of envelopment within the position is urged.

At the moment of the assault the automatic weapons are required to develop the highest possible intensity of fire to support the assaulting troops, and in the event of the enemy being in occupation of a prepared position the assault is delivered over the open, mopping up parties dealing with enemy troops holding out in trenches, etc.

The highest development of the offensive spirit is insisted upon, and the will to conquer is stressed to the utmost, as witness the following passages:—

"If the charge has been repulsed by the enemy and there are yet units in the rear line left, they must be thrown to the front and repeat the charge twice or thrice. Even if such units should not be available, officers and men in the front line must continue their efforts to attain the final object, stoutly resisting at a place near to the hostile position. They will keep up a heavy fire, rally, and repeat the assault over and over again".

"Fire effect alone will not suffice to overthrow the enemy, wherefore the attacking force must always use the charge to gain final victory.

At the juncture of the decisive blow, infantry, by developing its fire to the utmost intensity, will close with the enemy and at length fiercely charge".

"Fighting, frequently lasting for days and nights at a stretch, generally takes place after long marches, work, and hardship. Therefore, to attain the object of the fight, the men should be possessed of a brave and cool spirit, self-confidence and patience, vanquishing all weakness of body and mind".

After the successful delivery of the assault it is laid down that, in the encounter battle, immediate steps should be taken to organize the pursuit of the beaten enemy and reap the full fruits of victory, whereas in the event of the enemy being in occupation of a prepared position, a certain measure of caution is indicated in the instructions that assaulting companies should consolidate the captured position and be prepared for counter-attack.

The average frontage for a company in the attack is 200 metres as opposed to the 150 metres previously laid down.

(c) *The Battalion in Attack.*

The frontage for a battalion in a normal attack is laid down as 600 metres but this may be increased.

As the battalion comes under effective artillery fire the assembly formation is broken up and distances and intervals increased as necessary, but it is laid down here, as throughout the manual, that close order must be maintained until the latest possible moment.

On deployment, the battalion commander allots objectives to companies at the rate, roughly, of a frontage of 200 metres per company, and arranges details of co-operation of his machine guns and such infantry guns as have been allotted to him by the regimental commander, keeping at least one company in reserve.

The machine guns are at the sole disposal of the battalion commander who decides the rôle which they are to fill in the attack, and are never placed under the orders of company commanders.

They are usually used in pairs and in the initial stages of the battle are normally employed at medium ranges for oblique fire from the flanks. As the attack develops, however, they are pushed well forward.

Although boldness is encouraged, it is laid down that machine guns should not be exposed, at too early a stage in the fight, to the risk of destruction by hostile artillery fire.

Overhead fire does not appear to be contemplated.

As the attack develops the "firing line" (see above) is built up and the battalion commander is responsible for maintaining the closest touch with the artillery supporting his battalion.

As the moment for the delivery of the assault approaches, the battalion commander takes up a position as close to the front line

as possible, watches the progress of his companies and selects the most favourable time and place for striking the decisive blow.

An interesting feature of the manual must now be mentioned.

It is laid down that if the enemy has had time to construct obstacles, *e. g.*, wire, their destruction will be undertaken by engineers specially attached to the assaulting troops, this operation being covered by the development of the intensity of the fire of the infantry weapons to its highest pitch, and the creation of a smoke-screen by the artillery assisted by the infantry mortars and grenade throwers.

The passages dealing with the destruction of obstacles in preparation for an assault seem to indicate that greater reliance is placed upon the demolition carried out by the infantry and engineers than upon that effected by the artillery, and that a large number of imperfectly made breaches are preferred to a few complete ones.

The assault having been successfully delivered, the battalion commander should use his reserve with the utmost boldness and expedition in order to exploit success to the greatest possible extent.

(d) The Regiment and the Brigade in Attack.

The regimental commander is responsible for the co-ordination of the action of his battalions and for providing such of them as require assistance with infantry guns or artillery support.

He is required to keep a reserve in his hands and he has in addition the sole disposal of the infantry gun detachment consisting of both 37 mm. guns and mortars.

The former is the close-support and anti-tank weapon and is normally used singly and attached to battalions of the front line.

The latter is primarily intended for searching dead ground, destruction of obstacles and smoke.

The regiment has a communications section which is responsible for the organization of communications and signals within the regiment.

The functions of the brigade command call for no special comment. The brigade usually deploys with its two regiments abreast, with a reserve, the strength and composition of which depends on circumstances.

(e) Defence.

“In defence, too, decisive victory is the aim, wherefore it should be constantly accompanied by offensive action. And whereas active defence is frequently liable to lapse into a state of passivity combined with loss of freedom of manœuvre, commanders must always be on the look out for a favourable opportunity for offensive operations.”

The above quotation from the manual is sufficient to show that the principle of an active defence with a view to resumption of the offensive at the earliest possible moment is recognised.

The defence is organized in depth and normally consists of an outpost zone and a battle position.

The principle of the organization of the battle position is a system of inter-dependent strong points developing an interlocking zone of fire, the framework of which is the machine guns and light automatics.

Stress is laid upon the importance of co-ordinating the fire of the infantry weapons with the artillery, for which purpose close liaison between the infantry and artillery commanders and the perfecting of communications within the position at an early stage are advocated.

The deliberate counter-attack is delivered by the general reserve, for which purpose the necessity for careful preliminary reconnaissance is mentioned, but local counter-attacks may also be made at the discretion of subordinate commanders, although no mention is made of the extent of such operations or the fixing of a limited objective.

The value of projectors as an adjunct to the defence is mentioned.

(f) Co-operation between Infantry and Artillery.

The importance of co-operation between infantry and artillery has always been recognised in previous editions of the manual, but the new edition shows an important advance in the treatment of this subject.

Whereas formerly co-operation was left somewhat vaguely to the initiative of the artillery commanders, who were enjoined to “support the infantry,” it is now definitely laid down that the artillery will remain as long as possible in the hands of the higher command, who will co-ordinate its action with that of the infantry.

The evolution of ideas in this respect is best illustrated by comparison of the following paragraphs of the old and new editions.

The old edition stated "When he has made his decision with a view to battle, the superior commander gives his orders based thereon At this time the artillery receives indication of its approximate position and the artillery commander makes his dispositions based on the instructions given to him".

The new edition says, "When the superior commander, etc. . . . At this time he indicates to the artillery the preparations it should make and its first task. For the preparations he gives it the necessary information by an order fixing, according to the plan of action, the direction or localities on which it should be prepared to fire the general extent of the front, the units in reserve and the expenditure of ammunition for the day.

Later the *superior commander*, following the changes in the situation, should give the artillery its further tasks."

Again ".....whatever may be the circumstances it is necessary to point out to the artillery commander what the situation is, so as to enable him to help on the fight to advantage."

Moreover it is now laid down that the battalion commander should make his plan in consultation with the commander of the artillery allotted to him for direct support.

Liaison is established, in the first instance, by proximity of headquarters, a practice which does not appear to have been previously recognised.

This proximity is urged at all stages in addition to liaison effected by means of telephone and visual.

The responsibility for the establishment of communication rests, in principle, with the artillery, but it is stated that the infantry should give all possible assistance in this.

The infantry is charged with seizing suitable localities to serve as O. P's for the artillery and is responsible for providing such protection as the artillery may need.

The principle of the employment of artillery is to keep it, as far as possible, centralized, but decentralization is legislated for, if the circumstances demand it, by the detachment of a portion of the artillery under the orders of the commander of the forward bodies,

and further sub-division is recognised, even to the extent of allotting single guns to companies.

The nature of the support which the artillery can afford the infantry offers no peculiarity, except that it is interesting to note that the barrage is nowhere specifically mentioned, and is only indirectly referred to in the following passage ".....at this time (the assault) it must be realized that some casualties may be inflicted by our own artillery."

(g) *Inter-communication in the Field.*

Careful organization of a complete system of inter-communication throughout all stages of the battle is emphasised in the manual.

The infantry regiment, having a communications detachment, is responsible for maintaining communication in three directions; upwards with the brigade, downwards with its battalions, and laterally with neighbouring units, while it may be required to duplicate the communications already established by the artillery.

Portions of the signal detachment of the regiment may be allotted to battalions as required.

The principal means of signal communication are telephone, visual and wireless.

The telephone is the general method and visual and runners are only used for secondary local communications and when the telephone cannot be used or fails.

Considerable use is made of pigeons.

Communications are, whenever possible, duplicated by alternative methods. The manual states that liaison and communications should be co-ordinated by the *higher command*, and that the system should be established as completely as possible, before the deployment of the troops.

In the lower formations, the battalion commander organizes his communications at the commencement of his approach march and the company commander when he deploys his company.

Conclusion.

The regulations are imbued throughout with the offensive spirit, the maintenance of which is insisted upon at all stages of the battle,

and even where it has been found necessary to impose a certain measure of caution as a concession to the great development of modern fire-power, such concessions are invariably qualified by a reminder of the necessity for never allowing the offensive spirit to be lost, so that passages such as these are of frequent occurrence: "the forward movement must not be delayed for this," "..... the offensive spirit must not be lessened on this pretext."

A great advance is evident in the restrictions placed upon the use of close order formations, but remnants of the partiality for such formations are still appreciable in various parts of the manual.

All the instructions relating to these two factors, the paramount importance of the offensive spirit, and the necessity for keeping the troops in close order for as long as possible and under control at all stages of the battle, are clearly dictated by appreciation of the national character, an attempt to define which is made in the introduction to this article.

Amongst the operations of war preference is given to the doctrine of envelopment which should be observed by all units, however small, and the chief means to be used for the fulfilment of this principle are the reserves of all categories which should be used primarily for manœuvre.

The necessity for close inter-communication and prompt transmission of information throughout the battle, and the value of bold personal reconnaissance by commanders of all grades are emphasised.

Although showing a great advance upon its predecessors, the manual still suffers from certain defects which appear to be present in nearly all Japanese training manuals, and which result in making the train of thought somewhat difficult to follow by reason of the constant restrictions which are placed upon any new ideas, and the presence of many apparent contradictions and examples of redundancy.

THE CROSSING OF THE RIVER PIAVE.

October 23rd to 29th 1918.

By

Captain A. W. Lee, M.C.

1. It has been said that with the advent of tanks, "The fiercest fighting of the future is likely to occur for the capture, or retention of river lines."

If this is the case, it would appear that we ought to make a special study of operations in which the defence or capture of such river lines has played a prominent part.

Examples of this type of operation are numerous in past campaigns, but the Great War has not produced many, the crossing of the river Tigris at the Shumran Bend, and the crossing of the river Piave in Italy in 1918 being perhaps the two best known. This is unfortunate, as it is from the study of a battle fought under modern conditions, where large forces were employed, and where the enemy was strongly entrenched, that we shall be able to deduce useful lessons for the future.

In view of the above, it is thought that the following account of the crossing of the river Piave may be of interest and of some use to readers who feel that river lines are destined to play a large part in future operations.

2. *The scope of the article.*

This article will deal chiefly with the actual crossing of the river Piave. Of the subsequent operations there are no particular outstanding lessons to be learnt. Once the river had been crossed, the enemy's resistance only lasted for three days. After this, the retreat became a rout, and the main problem of this phase of the operations resolved itself into one of how to maintain the forces which were in touch with the enemy by the very slender communications over the Piave.

3. *General situation at the time of the conception of the plan.*

The general situation *vis à vis* the Allies and the Central Powers at the time of these operations was as follows :—

(a) *On the Western Front.*

Marechal Foch had opened his great offensive, and the Germans were being pressed back all along the line.

(b) On the Macedonian Front.

The Allies had just opened their offensive which was eventually to cause Bulgaria to surrender, and there were already indications that she was nearing the end of her tether.

(c) In Palestine.

The E. E. F. was carrying out its great sweep through Northern Palestine and was approaching Aleppo. Moreover, Turkey was showing signs of collapse.

(d) In Mesopotamia.

The M. E. F. had commenced its advance up the Tigris, north of Baghdad, driving the Turkish forces before it.

The general situation, therefore, was distinctly favourable for offensive operations.

4. Special situation on the Italian Front.

On the Italian front the situation was as follows :—

(a) The line ran as shown on the Map A.

The western portion of the line ran completely in the mountain area, where active operations were a matter of difficulty. From about Pederobra, the line came down into the Venetian plain, and followed the course of the Piave river from there to the Adriatic coast.

(b) The Austrians had been on the defensive ever since June of this year, when their effort to break through the Allied line on the Asiago Plateau, and over the Piave at the Montello, had been decisively defeated. As regards morale and fighting value, they were showing distinct signs of cracking up. There was considerable friction between the regiments of the different races, of which the Austrian Army was composed.

Rations were very short and of poor quality. The High Command was not trusted and was supine in the extreme. Moreover, it did very little to rectify the state of unrest which was present amongst the various units.

(c) The Italians, on the other hand, had recovered from the Caporetto disaster of 1917, and had been further encouraged by the decisive defeat which they had inflicted on the Austrians during the latter's offensive in June 1918. The manpower question in Italy at this time, however, was still acute.

- (d) The 3 British divisions on the Italian front were chafing at the inactivity, and were feeling themselves very much out of it, now that the operations on the Western front were meeting with such success. The situation, therefore, on the Italian front, seemed propitious for the launching of offensive operations.

5. *General description of the country.*

Before dealing with the plan of operations which was finally adopted, it is thought that a short description of the country, pointing out what dangers were to be guarded against in forming any such plan, will not be out of place. As can be seen from the map, the Venetian plain is bordered on its Northern flank by the Carnic Alps and the Dolomites, which stretch from the Gorizia Plateau westward to Lake Garda. This mountain mass rises straight up from the plain to a height of about 4,000 ft., and from the Southern edge, splendid observation can be obtained over the whole Venetian plain.

The front line ran from 6—7 miles in from the Southern edge of the mountains, and should the Austrians launch another attack, as they did in June, and succeed, this time, in advancing this short distance, they would force us off the high ground, and would obtain the observation of which mention has been made above. They would, then, dominate the L. of C., of any force operating eastward along the plain from the Piave. Moreover, an enemy holding such a position, would possess a very good jumping off point from which to advance down into the plain upon our L. of C.

This was a factor which had to be taken into account, when considering any plan of operations for crossing the Piave, and advancing eastwards. The Venetian plain itself is absolutely flat. It is highly cultivated, and thickly populated, being a mass of small enclosures of vineyards and scattered farm-houses. Observation is restricted, as most of the hedges between the fields are composed of grape-vines, growing to a height of 10 ft. to 15 ft. The plain is crossed by several large rivers, the most important of these being the Tagliamento, the Piave, the Brenta, the Adige, and the Po. Of these, the only one which affects us, is the Piave. This river comes out of the hills, and immediately broadens out.

From Valdobbiadene to the sea, the river bed varies from half a mile to two miles broad. The river itself breaks up into several

small streams, between which lie shingle islands. In most cases, these islands are devoid of vegetation, or any sort of cover, but the Grave Di Papodopoli is an exception. This island is about 4 miles long, and about $\frac{3}{4}$ mile broad at its broadest point. Parts of it are cultivated, and the remainder was covered with scrub, rising to a height of about 10 to 15 feet. The channels in which the Piave river ran varied from two to twelve. Some were small rivulets, about 20 yards broad and about 18 inches deep, and formed no serious obstacle. Others were about 200 yards broad, and about 3 to 4 feet deep, and could only be crossed by a boat, with difficulty. The normal current ran at about 3 to 4 knots, but a slight rise of level increased its rate to about 10 knots. These rises occurred very rapidly in the spring and autumn, due to heavy rain storms and melting snows in the mountains. The floods reached the lower reaches of the river extraordinarily quickly. This was a factor which had to be taken into account in any plan which involved the crossing of this river.

6. *The development of the plan.* (See Map A.).

The plan for the crossing of the Piave was first considered by the Italian High Command in September 1918, but, after a good deal of deliberation, was turned down for the following reasons:—

- (a) The chance of an Austrian offence in the mountain area breaking in on our lines of communications, was still considered possible, and the consequent danger was considered to be too great.
- (b) The actual crossing of a river $1\frac{1}{2}$ miles broad, devoid of covered approaches, except at the Grave Di Papodopoli, in the face of an enemy who was well entrenched on the opposite bank, was not considered feasible, except at the risk of heavy casualties.

During the month of October events moved swiftly. Bulgaria surrendered, and Turkey was evidently tottering to her fall. Moreover, on the Western front, success followed success. On the Italian front, the state of the Austrian Army deteriorated rapidly. Desertion became rife, and reports of demoralization of the army were received daily. In addition, there were signs that the home front in Austria had reached the breaking point.

In view of this, the Italian High Command reconsidered the question of the launching of an offensive across the Piave, and this

time decided that the enemy morale had descended to such a low ebb, that the results which might be obtained from such an offensive, justified the risk. And the risks were there, for, although the enemy morale was low, he was still numerically superior to the Allies on this front, was well armed and supplied with artillery.

Broadly speaking, the plan was for the 8th and 12th Italian Armies to cross the Piave, and advance on Feltre and Vittorio, with the object of separating the Austrian armies of the Trentino from those of the Piave. If these two places could be captured, the lines of communication of the Trentino group would be cut. The 10th Italian Army, under the Earl of Cavan, in which were the XI Italian Corps and the XIV British Corps, consisting of the 7th and 23rd British Divisions, was to protect the right flank of the main Italian attack, by crossing the river, and pressing the enemy back to the river Livenza, between Sacile and Portobuffole.

From now onwards, it is proposed to deal mainly with the operations of the 7th Division, as this is the division with which the author happened to be serving during these operations.

On the frontage allotted to the 7th Division, the Piave varied from 1 to 2 miles broad. The streams marked in deep blue on map B. were the deep ones, those in light blue were shallower, with a less rapid current. On each bank of the river was a bund, built to contain the river in flood time. This bund was about 10 feet high and about 20 feet broad at the top. On the Austrian side, it was honeycombed with dug-outs, and there were several M. G. emplacements. In front of this bund, the Austrians had a thick belt of wire.

The plan decided on for the 7th Division was as follows :—

In conjunction with the XI Italian Corps, on our right, the Grave Di Papodopoli was to be seized by a preliminary operation as an advanced bridgehead, upon which the troops allotted for the main attack could form up. This operation was to be carried out by 1 infantry brigade (6 companies being used for the actual attack). The attack was to be carried out at night, and there was to be no artillery support. The main attack was to be launched two days later.

The advantages of having the Grave Di Papodopoli as an advanced bridgehead were as follows :—

- (a) That the troops which were carrying out the main attack would have only three streams to cross, instead of seven, and all these three were fordable.

Therefore, no recourse would have to be made to boats, or bridging operations, in connection with the main attack.

(b) To launch the attack at all, either bridges would have to be constructed over the main streams, or else, the troops would have to be taken across in boats. Either of these operations would have been lengthy ones, owing to the strength of the current, and to the scarcity of boats, or skilled boatmen. On the 7th Division front, the main streams ran to the west of the Grave Di Papodopoli, and once the island was in our hands, we should be covered from view from the enemy's bank, so that either the bridging, or boating operations, could be carried out under cover.

Once the island had been captured, the sappers were to construct a pontoon bridge across the main stream, over which the remainder of the division were to pass, to form up for the main attack. This was to take place on Z-1 night.

The attack, once launched, was to proceed in accordance with the objectives shown on Map B. Subsequent objectives, for successive days, were to be allotted according to circumstances.

7. Preliminary moves of the 7th Division.

On the 12th October, the 7th Division moved down to Treviso, from the rest area to the west of Vicenza in readiness for the operations.

During the period 12th to the 23rd October, the infantry carried out practice in embarking and disembarking from boats, by day, and by night, and the sappers in constructing bridges in swift currents.

The divisional artillery moved up to positions of readiness, but not a gun was allowed to fire, in order to preserve secrecy. The bombardment for the main attack was to be carried by predicted fire.

Certain officers were sent up into the line, to get the lie of the land, but no one approaching within 1 mile of the Italian trench system was allowed to do so, unless dressed as an Italian. The result was eminently successful, for, when we attacked, the Austrians had no idea that there were any British troops on the river front.

8. *The preliminary operations for the seizing of the Grave Di Papodopoli on night 23/24th October.*

At 2000 hours on the night 23/24th October, the six companies of the infantry brigade detailed for the capture of the island assembled at point A (shown on Map B.), and crossed the narrow stream to Cosenza Island by a foot bridge. On arriving at the west bank of the main stream, they were met by a party of Italian boatmen, with 12 flat-bottomed boats. Each boat carried 7 men, exclusive of 2 boatmen. As soon as the companies had assembled, one boat was sent across to reconnoitre the crossing, and on returning, the embarkation commenced. Each journey took about 20 minutes. The method of crossing was that two platoons were sent off together, and as soon as these two platoons landed, they crept forward, and took up a covering position for the remainder of the two companies. These two companies, in turn, covered the landing of the remainder of the force. It will be noticed, by looking at the map, that the attack was well planned, as the troops were to advance eastward, down the Grave Di Papodopoli, and by so doing, would be taking the Austrian defences in the flank. The leading platoons were lucky in striking a bit of beach where the defences were not manned, and so managed to get the initial footing on the island without opposition.

The whole initial crossing was a complete success, and the casualties were comparatively few. This was due to the fact, that, at the commencement of the crossing, there was no moon. Later the moon broke through the clouds, and showed the boats crossing, and it was then that the casualties began to occur.

As soon as the 6 companies were over, the attack proceeded. Considerable opposition was met with, but the Austrians were confused by the direction of the attack, and the presence of men in uniforms which they did not know. By the morning of the 24th, a line had been reached about half-way down the island, but the Italian troops of the corps on our right, who were to co-operate, had not got a footing on the island. During the 24th, there was heavy rain, and the river rose, the current increasing to about 10 knots. Consequently, the main attack had to be postponed till the 27th. Meanwhile, the troops on the Grave Di Papodopoli consolidated their positions, and the night 24/25th was spent in getting rations and re-inforcements across to them—no easy matter in the current that was running at the

time, with the beach on the Grave Di Papodopoli under heavy and continuous shrapnel and M. G. fire. On the night 25/26th, an attack to complete the capture of the island was launched. This attack was successful, and cleared the Austrians back to the far side of the river. The Austrians made one heavy unsuccessful counter-attack to recapture the southern end of the island.

Thus, by the morning of the 26th, with the Grave Di Papodopoli in our hands, and the river falling, the stage was set for the launching of the main attack.

9. The building of the bridge on to the Grave Di Papodopoli.

Before proceeding with the narrative of the operations, reference will be made to the building of the bridge across the river to the Grave Di Papodopoli. On the 23rd of October, a conference was held at 7th Division Headquarters at which the Divisional Commander stated that the bridge must be completed on to Papodopoli by the 26th October. The C. R. E. was doubtful if it would be possible for the bridge to live at all in the current then running. However, on the night 23/24th, operations were commenced on the laying of the anchors for the pontoons, for the bridge at Salettuo. This operation, which consisted of laying 12 kedged anchors, took the whole night to complete. Nothing could be done on the 24th, as the current was too swift. Moreover, the enemy were still in possession of part of the island, within effective rifle range of the bridge site.

On the night 25/26th, the work of getting the pontoons into position was commenced. Four pontoons were needed to bridge the main stream. These were accordingly launched, but it was found that the British type of pontoon was not strong enough to withstand the current. The first two that were launched were whirled away, and completely smashed. Assistance was now asked for from the 18th Italian Pontooning Company, whose pontoons were much larger and heavier. The personnel, moreover, were accustomed to handling boats in these swift currents, and they were a revelation to our sappers in the way in which they handled their pontoons. Not only did they seem to be able to do whatever they wished with these great clumsy barges, but they managed to lower their anchors as they were actually getting them into position. Thus, by the morning of the 26th, the main stream had been bridged. Fortune now favoured us, for a thick mist lay over the river all that day, precluding any chance of Austrian

observation. The second stream to be bridged was shallower, and the current less swift, so it was decided to complete the bridge with Weldon trestles. This was carried out, and the bridge was ready for use by the evening of the 26th.

10. *The approach march and the forming up for the main attack.*

On the evening of the 23rd, the remaining two brigades of the 7th Division had moved up to the area near Maserada, about 2 miles west of the river. Here they remained until the evening of the 26th, when orders were received that the attack would take place on the morning of the 27th, and that they were to cross on to Papodopoli that night.

It was arranged that battalions of alternate brigades should follow each other across the bridge. Two rendezvous were given, and from these rendezvous, tapes were laid up to the bridge. Guides for each battalion were assembled at the rendezvous, and as their respective battalions came up, the guides took charge of them, and led them up to the bridge. At the bridge itself was a Staff Officer from Divisional Headquarters who supervised the crossing.

He was in direct communication with the G. 1, and reported to him as each battalion went over. The assembly started at 2000 hours, and by 2300 hours had been completed without a hitch. The Austrians were obviously unaware of the existence of the bridge, for they took no notice of it, and except for a few random shells, the two brigades crossed in peace.

No animals were taken with the attacking brigades. All the transport was divided into two echelons, "A" Echelon consisted of pack animals, carrying reserve S. A. A., and rations for the 28th, and "B" Echelon, consisting of all the wheeled transport. "A" Echelon was to cross as soon as circumstances permitted, on the morning of the 27th, and the wheeled transport was to cross as soon as the bridge had been completed.

11. *The attack on the main position.*

As soon as the two brigades, which were to carry out the main attack reached the island, they formed up in their attacking formations on the northern side. Each brigade was on a 1 battalion front, with 1 battalion in support, and 1 battalion in reserve. At 0530 hours on the 27th, when it was still dark, the attacking brigades

moved forward and commenced crossing the streams on the northern side of the island. 1½ hours had been allowed for the brigades to cover the distance from the northern side of the Grave Di Papodopoli to the enemy's bank of the river, and, although this distance was nowhere greater than a mile, it was not found to be too long. The streams encountered on the far side of the island were not as bad as those on the western side, but, unluckily, the worst of them was found to run right under the enemy's bank. This stream was found to be 3 to 4 feet deep, with about a 7 knot current. You can imagine that, to a man in fighting order, with a steel helmet, and box respirator, carrying a Lewis gun, this was no mean obstacle. However, by linking arms, the attacking battalions managed to get across, and comparatively few men were drowned.

The barrage came down on the enemy's front line at 0625 hours, just as it was getting light, and 20 minutes before the assault on this line was timed to be delivered. In this barrage was a generous proportion of smoke, which was to blind the enemy whilst the attacking troops were crossing the last stream. This was most effective. The rate of the barrage up to the final objective for the first day was 15 yards per minute. At 0645 hours, the attacking infantry emerged from the last stream, clambered through the wire, which was luckily found to be in a poor state of repair, with many gaps, and which had also been effectively dealt with by our guns in the preliminary bombardment, scaled the bund, and assaulted the enemy front line. The enemy holding this line put up very little resistance, and within 20 minutes the whole front line was in our possession.

All through the initial assault, the Austrians had done very little to stop our advance. When it got light enough for them to see our attacking troops crossing the streams from the northern side of the island of Papodopoli, a few M. G.'s opened fire, but their fire was wild, and very few casualties resulted. Once we reached their wire, the defenders seemed to have given up all hope, for rifle fire practically ceased.

12. *Subsequent operations.*

It is not proposed to follow these operations any further. Most of the fighting from the time that the Piave was crossed, till the Austrians finally withdrew, consisted of confused platoon and company attacks round the scattered farms. The enemy put up a fairly stout

resistance during the 27th, but all the objectives given on Map B. were captured in succession, and, by the evening of that day, the line ran as shown.

The advance was continued on the 28th and 29th on which day the line of the Monticano River was forced. This river might have formed a bad obstacle, for its banks were raised some 30 feet above the level of the surrounding country, and were very steep. Moreover, this line was held by a fresh division. Owing, however, to the fact that the enemy, in his hurry, forgot to blow up the bridge at one place, we managed to establish ourselves on the far side, and after this, the enemy withdrew. After the line of the Monticano had been captured, the Austrian retreat became a rout. There was no more fighting, and the operations resolved themselves into hard marching in order to keep touch with the retreating columns.

The daily average advance was about 10 miles, and by the 4th of November, we had reached a line on the far side of the Tagliamento. At 1500 hours on that day, the Austrians signed the Armistice.

Between the 27th October and the 4th November, we had advanced about 40 miles, and had captured vast numbers of prisoners, and large quantities of stores and guns.

13. *Events at the Salettuo Bridge after the launching of the main attack.*

It is now proposed to discuss briefly the events which took place at the bridge over the Piave, from the time the attack was launched on the 27th, till the end of the operations, as it is thought that there are some valuable lessons to be learnt here.

At about midday on the 27th, "A" Echelon of the attacking brigades crossed to the island. From here onwards, the mules had to be led across the streams to the enemy's bank; this was managed successfully, except that several mules chose the deepest and swiftest streams in which to stop and drink, so that many of the drivers were washed off their feet.

As soon as "A" Echelon has crossed, 2 batteries moved up to cross on to the Grave Di Papodopoli, whence they were to support the attacking infantry, now getting out of range of the guns on the west bank of the river. These batteries took a very long time to cross. The teams, frightened by the sight and sound of the rushing

water, either refused to move on to the bridge, or else, when halfway across, refused to go any further. One gun team, when halfway across, became restive, and the leaders plunged into the stream, dragging the rest of the team, with the limber wagon and gun, after them. In addition, the Austrians had now spotted the bridge, and commenced dropping 11 inch shells unpleasantly close. A stream of wounded and prisoners now started coming back over the bridge, and considerable confusion resulted. This was due to the fact that there was only one bridge for "up" and "down" traffic, and that there were insufficient policing arrangements at either end.

A point in connection with the crossing of horses over pontoon bridges is, that the H. T. of a force, about to be engaged in any aquarian operation, should receive as much practice as other components of the force. The delay, due by this lack of training, very nearly caused the breakdown of the chain of supply.

Whilst this was going on, on the western bank, the sappers were completing a bridge from the island to the eastern bank. By the evening of the 27th, this had been done. A new situation now arose. The Italian Corps to the north of the 23rd Division, opposite the Nervesa, had failed to get across the river, so it was decided to pass the XVIII Italian Corps across our bridge, complete with their transport, to attack the objectives of the other Italian Corps, in flank, from the south. The result was a certain amount of friction, due to the fact that there were no senior British and Italian Staff Officers present on the spot, to lay down an order of precedence.

The chaos was further increased by the fact that the approach to the bridge was very narrow, and there was no cleared space at the bridge-head, where carts could be manœuvred, or jibbers put on one side. The result was that, once a cart got on to the bridge, it either had to go across, or go into the river—a lot did the latter intentionally,—but the waste of time involved in coaxing recalcitrant teams across the bridge was enormous. Again, in spite of the fact that a hundred men were employed on traffic control duties, on the approach to the bridge, they were found to be insufficient.

Transport officers, in their anxiety to get their transport across, broke through the hedges, came across country, and rushed the bridge. It is thought that there should have been a cordon of armed piquets, forming a semi-circle all round the bridge-head, with orders

to shoot anyone contravening, seriously, the traffic rules. The total result was, that there was at one period a solid mass of transport, stretching back along the road for 8 miles, and the average rate of progress of this column worked out at 1 mile per 6 hours.

On the 29th, the XI Italian Corps completed a bridge across the river, thus easing the situation, which up till now had been critical. Owing to the congestion at the Salettuol Bridge, the fighting portion of the Division was receiving only its bare rations. There were no reserves of S. A. A., or gun ammunition across the river, and the D. A. C. was still a long way from the bridge. An Austrian counter-attack at this period would have placed us in a very awkward position.

As the advance progressed, the question of the supply of rations began to give trouble. It was all right as long as the delivery points were within the radius of H. T., but when this was no longer the case, a very complicated system of supply had to be introduced. Loaded lorries could not cross the pontoon bridges, and H. T. could not cover the distance from the bridge-head to the delivery points. Accordingly, sufficient unloaded 30 cwt. Fiat lorries were transferred across the river, to carry the supplies for all the divisions on the far side. The rations then came up to the western bank of the river in 3 ton lorries, were transferred to G.S. wagons, which took them across the river, and were then reloaded into 30 cwt. lorries on the far side, and taken by them, direct up to units.

A point worth noting here is, that pontoon bridges should be made to carry loaded 30 cwt. lorries.

14. *Lessons.*

In conclusion, it is thought that a certain number of lessons may be learnt from these operations. These can be divided into two headings, *Strategical* and *Administrative*.

As regards strategical lessons, these operations bring out—

(a) *The value of morale.*

Here is a case of a successful crossing of a large and difficult river, with the enemy holding a strong position on the opposite bank. The only reason for the success of this operation was that the enemy's morale was so low that the troops could not be induced to make any show of defence. On our side, the troops were in fine fettle, and were determined to get across the river.

(b) The value of surprise.

The Austrian High Command did not think that a successful crossing could be made over the Piave. The preliminary attack on the Grave Di Papodopoli came as a complete surprise to them, and they did not even know that there were any British troops in the area. The result was that the island was captured with very little opposition.

(c) The value of personal character.

This is brought out by the action of Lord Cavan commanding the Xth Army. He fully appreciated the difficulties, and risks with which such an operation would be faced, but rightly judged that the time had come to accept them, and that the enemy was of the type against whom such risks could be taken. It was largely due to his energy that the Italian High Command decided to undertake these operations.

(d) The value of an island in the crossing of a big river, which can be seized as an advanced bridge-head.

A parallel example of this may be found in Napoleon's use of the island of Lobau during his passage of the River Danube, prior to the battle of Wagram.

(e) The uselessness of a passive defence.

The defence put up by the Austrians in these operations is an example of this. Firstly, in allowing us to capture the Grave Di Papodopoli without any serious attempt to retake it, and then, in giving up their forward line, on the east bank of the river, with practically no opposition.

Under the administrative heading, the following lessons are important :—

- (a) The importance of previous training, both for men and horses, and the issue of the most minutely detailed orders, for the crossing of rivers, whether by boats, or by bridges.

It was due to this that the crossing of the Piave, for the preliminary operations, and for the crossing of the rest of the division to the Grave Di Papodopoli, to its forming up positions, worked so smoothly. It was due to the lack of these orders that the confusion arose later, at the Salettuel Bridge.

MAP "A"



References

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- (b) The importance of strict traffic control, and the necessity for the presence of a senior staff officer, to control the crossing of the rivers.

When the 2 brigades of the 7th Division crossed to the Grave Di Papodopoli on the night 26/27th October, this was done and all went smoothly.

Later, when the transport came to cross, no staff officer was present.

- (c) The importance of having, if possible, an "up" and a "down" bridge for each division, and also the importance of having broad approaches and a big space cleared at either end of any bridge, so that carts can be manoeuvred, and those that show signs of holding up the traffic, can be put on one side.
- (d) The supply arrangements forced upon us, during these operations, bring out the difficulties which may arise during operations of this type, and necessity for provision by the "Q" Staff.

NORMAL FORMATIONS IN THE ATTACK.

BY CAPTAIN H. V. BRAGG, M. C.

The training of infantry for the attack is a problem which will never cease to exist. The aspect from which it has to be considered changes as the effects of progress in science and engineering make themselves felt ; but the more one considers the matter, the more evident it becomes that, however much details of the attack may change, the one grand principle can never alter : Success lies in concentrating superior forces, both moral and physical, at the decisive point. It is therefore a question of vital importance to get the infantry up to this point with the minimum of loss, and consequent high moral.

Colonel Henderson, in his article " The training of infantry for the attack " (Science of war) although writing as far back as 1899, provides most valuable ideas on the subject. He describes the problem confronting Sir John Moore at Shorncliffe in training his troops preparatory to their taking part in the Peninsular Campaign. He gives detail of their training, and goes on to prove that the salient points were still important to-day.

He sums up his ideas on the subject as follows :—

- (a) To train the judgment of the officers so that when left to themselves, they would do the right thing.
- (b) To make use of the most difficult ground available (for training).
- (c) To avoid the constant practice of normal formations.
- (d) To train the individual soldier to act on his own initiative.

The forces of the Empire, in the case of national emergency would consist largely of volunteer troops, and the policy of to-day is to train for mobile warfare. Colonel Henderson was pre-eminent-ly a student of the American War of Secession, the circumstances of which may closely ally themselves to the conditions of any future war in which we may have to take part, *e.g.*, Volunteer troops strengthened by regulars, operating in open warfare in which strategy and mobility play a leading part. In the face of this, could it possibly be maintained that his conclusions are not worthy of the most deliberate consideration ?

The point I wish to bring forward is the third of his conclusions. "To avoid the constant practice of normal formations".

Colonel Henderson in extracting facts from two campaigns puts forward in a convincing manner what he considers to have been the secrets of success in training.

Sir John Moore at Shorncliffe produced soldiers of the quality of the Light Brigade who immediately on arriving in the Peninsular took over with eminent success, the duties of covering troops, and outposts in most difficult country. The salient points of their training at Home had been—

- (a) Initiative on the part of officers had been encouraged.
- (b) Exercise to get the men physically fit.
- (c) Speeding up mobility over bad ground.
- (d) Careful training of the individual to produce self-reliance.

He then cites the opinion of an officer who took part in the Tirah campaign of '97, who stated that troops who had not been previously trained in the hills were not fully efficient until some time after they had arrived and had had opportunities for practise.

This officer was of the opinion that their system of training had been faulty. "What is required" he said is—

- (a) Regimental officers to be left more to themselves on field days.
- (b) An extended course of physical training.
- (c) Practise in crossing difficult country.
- (d) Careful individual instruction of the men."

From this, and other corroboratory evidence, Colonel Henderson deduces the facts to which reference has already been made.

The question now is "Are we justified in adopting the same conclusions to-day?" more especially "to avoid the constant practise of normal formations."

Let us briefly consider the weapons with which infantry were armed then, and now, and the possible effects of these changes.

In 1897, the weapons with which the infantry were armed were the Maxim gun and the rifle. The sections in a company were therefore similarly armed and therefore had similar rôles in the attack. A section afforded help to its neighbour by reinforcing it, and adding

to its fire power—building up a firing line—as they used to call it. The inter mixing of units in the firing line, with the consequent loss of organisation and control, was accepted as inevitable. The remedy for all evils was skirmishing (individual initiative).

To-day we have the Vickers gun replacing the Maxim and the rifle ; but in addition, we have the Lewis gun. This necessitates the platoon being split up into rifle sections and Lewis gun sections, each having its separate rôle in the attack, but interdependent. The inter mixing of units in the firing line is obviated by normally distributing units in depth. The Lewis gun section supports the rifle section (conferring a certain power of manœuvre on it) by normally moving in rear and thus being ready to open fire. All this requires organization which is greatly facilitated by adopting normal formations.

Thus in '97, the idea seems to have been to teach individual independence ; the idea to-day is co-operation.

If we are to adopt normal formations, what benefits do we hope to obtain ?

One of Napoleon's maxims was that the moral to the physical is as three is to one. Morale is dependent on human nature. A man, or a body of men given a definite rôle in the attack, knowing they are supported by definite bodies from the various directions, are less likely to become demoralised than a similar body acting as an independent unit making the best of a bad time. Human nature shrinks from the indefinite.

As regards control, providing the men have been practised in normal formations, a section commander can control his men by signal long after voice control has become impossible.

A section practised in normal formations knows where to look for its section commander : its platoon commander : its affiliated Lewis gun section, etc., and *vice versa*. The normal formation would therefore appear to be not only the bedrock of control but also of all attack organisation.

Consider that important factor, the time taken for the staging of the attack. The shorter this time is consistent with efficiency, the better. How much additional time would be necessary were no normal formations mentioned in orders. How much more difficult they would be to digest.

On the approach of hostile aircraft, at a given signal, troops adopt a normal formation suitable for the occasion. It is impossible to imagine the effect of a commander inventing a formation on the spur of the moment.

Yet Colonel Henderson says "What good can come of laying down a multitude of rules and regulations?"

Further he condemns the use of normal formations as tending to cramp the initiative of subordinate commanders. His underlying idea seems to be that a normal formation implies a stereotyped advance, with correct intervals, in a given direction irrespective of the nature of the ground and the effect of the enemy fire. It will be accepted without discussion that the normal formations, as suggested in "*Infantry Training*" for sections, are based entirely on fire effect, and the use of ground.

It would also appear that Lewis guns in a normal formation being in a position to cover the advance of the rifle sections and conferring a power of manœuvre on them, the initiative of the leaders of these forward sections will find plenty of scope.

A subordinate leader, in the later stages of the attack, must be continually working out his line of advance, his bounds, and deciding on his targets. To enable him to manœuvre, he will keep his section in as compact a formation as possible. It would greatly interfere with his power of command if he had to be continually inventing new formations "on the spot."

Colonel Henderson's criterion of training is that it should fit the troops to take part in any theatre of war in which they may be called upon to act. The normal formations suggested in "*Infantry Training*" appear to fulfil these conditions with the possible exception of mountain warfare. Intervals and distances would naturally have to be adapted to suit the conditions—at night, or in bush warfare they will be small; in open country such as Mesopotamia, they will be large.

For conditions such as hill warfare on the N.-W. Frontier of India, although normal formations may help in certain circumstances, a specialised form of training is necessary to teach the adaption of the principles of war to the abnormal conditions existing there.

In spite of this, I consider that as a general rule, success in bringing the infantry up to the vital point with the minimum of loss and unbroken morale will best be achieved by the adoption of normal formations in the attack,

“A KEY TO SOME EXAMINATIONS.”

BY ARTHUR VINCENT.

In one respect, at least, the army stands alone amongst the professions. In no other career is professional efficiency tested not only by practice, but by a continual series of examinations extending up to the twenty-fifth year of professional service. As instances of the reverse one may quote the civil engineer who, with his selected bachelorhoods of engineering science, has finished for life with compulsory examinations at the age of a junior subaltern in the army ; or the doctor who is free of his last obligatory tests at an age that is very little older. Not so is it with the soldier.

The officer, in even the least specialized arms of the service, has not long finished with Sandhurst before he is faced with (a) and (b) for promotion, and thereafter steadily with such things as small arms courses, signalling courses, in certain cases language tests, and the like. After the possibility of a very few years' immunity from examination there comes the further test of (c) and (d) for major, at an age when the civilian professional in every walk of life has finished with even voluntary degrees. At roughly the same time, or sometimes earlier, those whose ambition is anything more than the most ordinary are faced with the stiffest paper test in the service, namely the Staff College Entrance examination. Still the end has not yet come. At an age where many civilians and particularly those of the overseas business community are thinking of retiring, the officer has before him the Senior Officers School, with its four months evaluation as to whether he is fit to serve on long enough to earn a minimum respectable pension or not.

Probably not the twentieth part of the folk in civil avocations realise all this when, as so often, they regard the profession of soldiering as a cheerful and healthy but quite brainless career. Nevertheless no profession in the world insists upon such continuous pains to produce and maintain individual efficiency as that of arms, nor adds to the daily test of practical work such a sustained quota of obligatory examinations.

If we sit down quietly to analyse things a little, what are we likely to find as really the most formidable obstacle to success in this

series of examinations ? It can be found at once if we recollect how many men we have met, of whom it is said that they are first-class soldiers out in the open or in the supreme test of a campaign, but who always meet with a rough passage, if not with disaster, when it comes to pen and paper in the examination room. The chief obstacle then is, of course, the lack of the "examination habit." School yourself into that habit, and the course becomes at once far easier.

Before considering how to acquire this habit, it is worth while thinking for a moment as to whether the necessity for its possession is intrinsically good or otherwise. There is always prevalent an idea that in the military profession any large quantity of written examinations is bad, that it tends to produce a bespectacled type of mind which controls a ready pen and abstruse booklore, but which fails in difficult emergency in the face of swift and hard facts. There may be a little ground for this, since the great majority of service work is essentially open-air and executive, in war if not always in peace. Still, the folk who take it as a basis for damning all written examinations *qua* examination forget that in the army the written test is no more than the postage stamp on the receipt, that out-door and practical training is continuous from year's end to year's end, that army examinations are concerned purely with the work that the officer is supposed to be doing every day, and that no one had any right to fail if he has been doing that work as he should have been.

There is another aspect too. Examinations are necessarily concentrated affairs, we cannot shut candidates up in airless cells for weeks on end as the Chinese are reputed to do. If we are to take a reasonably wide test of a man's knowledge within a sensibly limited number of three-hour papers, the tabloid trade must necessarily enter into our calculations. At the Staff Colleges there used to be a test, which we believe still exists under perhaps a different name, known as a "Speed and Accuracy Test". It is one of the soundest items in military training, a feeble imitation of that intense speed and accuracy test which faced, for instance, the staffs of the Expeditionary Force for days on end during the retreat from Mons, and from which they emerged triumphant. Looked upon in this light, the concentrated test conducted within strictly limited time has a high value all its own.

Lastly, one has seen many a military examination paper which did not call for half the swift and sure judgment, nor for much more

actual pen-work, than is demanded of many a responsible staff officer on a day when a rush of important questions chances to fall together into a single day's work.

It must then be conceded that the written examination has very sound principles behind it ; and that, so long as the affair is not overdone, it is a very valuable test for the reasons adduced.

Granted this, it is clearly desirable to acquire the " examination habit," a habit which, after all, is unconsciously practised at all and sundry times by commanders and staff officers whose administrative work is at all heavy.

Without question, the best way to acquire it is by practice ; and for examinations, as for war, there is no practice so good as the reality.

Get the habit, then, by going in for examinations ; and do not let it evade you by your looking on them as rare and rather frightening tests. This, apart from hard and intelligent work which is indispensable, may be said to be a real key to success in examinations.

For the earlier tests, such as the (a) and (b) examinations and the various courses of instruction, the road is not quite so easy. Still, (a) and (b) should be essentially an affair of regimental training, practice tests should be very easy to arrange in the larger units ; and for the courses at schools the continuous instruction by specialists should give good results with ease. In the period during which these tests occur there is almost always leisure, in India at any rate, for attacking the minor language tests in the commoner languages of the country ; and the future professional value of this upon other scores is difficult to overrate.

The main matter with which this article is concerned is the comparative rush of examinations which occurs always near a certain period of service, when (c) and (d), and the Staff College Entrance examination tend to come nearly together.

How many men has one met who preferred " not to bother with " the (c) and (d) examinations, on the chance that they would pass into the Staff College and so become exempt, or at least avoid (d) by obtaining qualifying marks. How many, too, have been defeated by the Staff College Entrance examination, and have thus been forced disheartenedly to attack (c) and (d) after all, possibly with fresh and unstudied campaigns to learn,

As already said, there is no practice like reality ; and beyond all question the best practice for the Staff College examination will be found in (c) and (d). Even if the Staff College test proves too stiff, or if a given year's competitive standard is too high to admit the trier, he should at least have finished for good and all with (c) and (d) if he has worked properly for them.

There is another point worth noting. Most folk who compete for the Staff College have, as an asset towards the voluntary subjects, some command of at any rate one foreign language, very commonly French. Now let us see how the normal dates of the examinations in question fall in with one another. It seems as though they could not have been devised in a more kindly way. Setting aside the Spring dates, we find as follows :—

(c) for major, in mid- or late September.

(d) for major, in mid- or late October.

Interpretership tests, in mid-January.

Staff College Entrance test, in mid-February.

All the first three of these, be it noted, are direct preparation for the fourth, which for most folk is the main business of the series.

It seems evident that the best way to tackle them is to set determinedly about an "autumn offensive." It may perhaps be permissible to mention that we ourselves carried out this policy some years ago, certainly as an experiment, but as one which carried a good deal of conviction even before it was begun. The results may be of interest. The (c) examination proved a nervous affair, chiefly since, owing to the late bicker with the Central Powers, the last examination indulged in had been in 1911. The President of the Board was moreover a tiger, though a righteous tiger, and speed and accuracy combined were duly in requisition. After an anxious passage, and a not very brilliant margin over pass-marks, it was found that the (d) examination had lost a great deal of its terrors, simply because of the practice already gained. Three months later the Interpretership examination, with its baker's dozen of different quick little tests, each very much in tabloid form, was found to cause in the examination room very little more anxiety than the knowledge of the very stiff marking which is part of it. A month later the Staff College Entrance examination, as regards the "examination habit," proved a complete walk-over. There was of

course the anxiety due to its importance, and a certain insufficiency of previous preparation meant late study at nights between one day's papers and the next. But, once in the room and with the clock struck, the presence of question papers to be dealt with quickly and concentratedly within a short time, held no terrors at all. The "examination habit" had been fully acquired; and one felt at any rate likely to possess a better chance, with exactly the same or less actual knowledge, than the "maiden" entries still beset with examination nerves. The experiment proved an unqualified success.

The track is the same to-day, and it is open to every one meditating an attack on the Staff College examination to practice similarly. Those who "don't want to be bothered with" (c) and (d) have only themselves to thank if the Entrance examination finds them rattled and perspiring: they can only be likened to the point-to-point rider who has neglected to take the guided ride round the course on the morning of the race.

The previous practice which is offered by regulations certainly does constitute, up to a point, a key to success; it at least offers to you a chance of doing yourself much more justice in the Staff College Entrance test than you would otherwise have been likely to do. There is no practice as good as reality, and here the practice of reality is available.

LEWIS GUN PLATOONS.

A SUGGESTION

By

Brevet Lieut.-Colonel H. E. Crocker, C.M.G., D.S.O.

This paper is put forward as a plea for the formation of a Lewis gun platoon in each company of an infantry battalion, as opposed to platoons each consisting of 3 rifle, and 1 Lewis gun sections as at present.

This suggestion only refers to the Indian organization, where each platoon has but one Lewis gun instead of two, as at Home.

The proposed organization would follow closely that of a cavalrysquadron, with its sabre troops, and one light automatic troop.

Before going any further, it may be urged as an objection to this proposal, that the Lewis gun is essentially a platoon weapon, and that to deprive the platoon commander of the fire power which a Lewis gun confers, would be fundamentally wrong and opposed to all principles of modern thought. This is a serious objection, and, provided that the Lewis gun is to be retained as a platoon weapon, appears at first sight to be unanswerable. The whole point of the argument, put forward in this paper, is, however, that the Lewis gun should no longer be regarded as a platoon, but a company weapon. The chief argument in favour of the proposed plan arises from the fact that there is, and must be, an unavoidable wastage of automatic fire power owing to non-employment of Lewis guns when used as a purely platoon weapon through a variety of causes.

Take the attack, for instance. How often do we see the Lewis gun following the rifle sections, unable to fire, and to give their platoon that support which they have every right to expect, while, at the same time, a neighbouring platoon is hampered in its advance by rifle fire, and would be only too thankful for the extra support which an additional Lewis gun could give them.

Of course, if a platoon is able to advance without the support of its Lewis gun, so much the better, but it is difficult to judge from peace manœuvres as to what would actually happen in the "Real Thing".

In defence, too, it may sometimes be impossible to use the platoon Lewis gun to advantage, owing to lack of suitable ground in the platoon locality.

We see, then, that the Lewis gun, when left with its own platoon, may be, to a great extent, wasted, whereas it could be used to greater advantage if taken away, and "brigaded", or used by the company commander where really required.

Practically every operation which infantry can be called upon to carry out, boils down to attack and defence, and the scope of the Lewis gun in these two operations will now be considered in some detail.

First of all, let us glance at the general organization of the company as it would be under the proposed scheme. We should only have 3 rifle platoons instead of 4, but, on the other hand, each platoon would have 4 rifle sections instead of 3 rifle and one Lewis gun sections. Their strength, therefore, would remain the same. This would lead to a great simplification of platoon tactics.

The company commander would only have 3 "shock action" platoons, as opposed to 4 as at present, but he would have an enormously increased "fire power" platoon.

It must be understood, of course, that there would be nothing to prevent the company commander from attaching a pair of guns, or a single gun to any platoon for a special operation, if considered desirable.

Owing to the unreliable nature of the gun, it is considered advisable to work them in pairs as a general principle, so as to avoid a complete breakdown at a critical juncture. While increasing the concentrated fire of the Lewis guns, this system would tend to decrease the dispersed fire, especially in defence.

Having briefly considered the general aspects of the case, let us now look at the company in attack and defence in some detail and see for ourselves how the proposed organization would affect the tactics and conduct of the operations from the point of view of Lewis gun action.

Attack.

It is laid down that attacking infantry should advance as far as they can do so without firing, trusting to covering fire from their own artillery and machine guns. When such advance is no longer possible, the Lewis guns are brought into play, and, by taking up

suitable successive positions, they help forward their platoons until they reach assaulting distance. This is excellent in theory, but, in practice, Lewis gun fire is often not forthcoming when most required, owing to—

- (a) Mechanical breakdown.
- (b) Unsuitable ground and fire positions.
- (c) Their own infantry masking their fire.
- (d) Lack of suitable targets.

In many cases, the Lewis gun commander thereupon gives up the contest as hopeless, and trots along with his platoon, hoping to be up at the death, and play his part in the consolidation of the captured position.

While all are more or less agreed on the rôle of the Lewis gun in the attack, the correct position for the Lewis gun section appears to afford a subject for considerable controversy. Should it be well up in front, or kept back with the reserve sections? Personal opinion, based on practical experience in the field, favour the forward position, and for the following reasons. It is unlikely that attacking infantry will be held up by long range S. A. fire to any appreciable extent. They will continue to advance, widely extended, covered by their own artillery and machine gun fire, until they approach the enemy's advanced posts, which will withhold their fire and trust the shattering effect of a surprise burst of rapid fire at decisive range. The attacking infantry will be checked, and there will be an immediate demand for local covering fire to support the attacks on the enemy strong posts. This covering fire could not be produced unless the Lewis guns were well up in front, and the section commanders well acquainted with the situation, which would be impossible if they were kept back with the reserves.

Advanced guard action, even more so than in the attack, calls for immediate support from Lewis guns, in order to enable the forward bodies of infantry to attack and sweep aside any enemy advanced posts which might hold them up, and delay the advance of the main body. Immediate Lewis gun fire is essential, but, at the same time, owing to the wide extensions consequent on advanced guard formations, it might be preferable to attach a gun, or a pair of guns to any platoon advancing over suitable Lewis gun ground.

The principle objection appears to be that advanced guns are more liable to destruction than would be the case if they were kept back and they might be knocked out before they are really required. But, we are told that the "Lewis gun is a weapon of opportunity." and if it is to be kept back for fear of destruction, it is rather difficult to understand how it is to take advantage of any opportunity which may present itself, and will be but fleeting.

The Lewis gun platoon should work forward in bounds, after the fashion of Vickers guns, two remaining in action, while the other two advance. The platoon commander would naturally choose the best line of country, where natural features of the ground appeared to offer most suitable positions for the guns. Herein, it is contended, lies one of the main advantages of the proposed system.

In the event of one of the leading platoons being held up, the Lewis gun platoon could help it with fire from his present position, or, if necessary, a pair of guns could be detached to its assistance.

In a similar manner, neighbouring companies might be given assistance.

Defence.

In defence, it is considered that the company commander would reap an even greater benefit from his Lewis gun platoon. Before posting his guns, it is essential that their rôle, their capabilities and limitations be thoroughly understood. We must, moreover, on no account lose sight of the fundamental difference between Lewis and Vickers guns. The Lewis gun commands a narrow front—a defile, in other words—with a series of short bursts of rapid fire, while a Vickers gun sprays the ground like a hose. The Vickers gun can traverse considerably to right and left, and can be employed in overhead and indirect fire. The Lewis gun cannot. It is easy to understand, then, that, in order to make the most of their fire power, we must site our Lewis guns where they can command defiles, tracks, roads and nullahs, etc. It may often happen that a platoon has been allotted a locality which offers no scope for the employment of Lewis guns, while, on the other hand, a neighbouring platoon may have several nullahs for the defence of which a Lewis gun would prove of inestimable value. Here again the advantage of "brigading" Lewis guns in a Lewis gun platoon and posting them where they can most suitably be employed, is obvious.

The system of working guns in pairs would only permit them to command two defiles in each company locality, but, even so, it is considered advisable to make certain of these two defiles, leaving the remainder to the rifle platoons, than to have the anxiety of the Lewis gun ceasing fire when most required.

When working out his scheme for Lewis gun defence, the company commander would be enabled to take a far broader view of the situation than he otherwise could, were his guns permanently attached to their platoons as they are at present. He could post them for the defence of the company locality as a whole, rather than with regard to the more parochial view of the platoon. He would thus be in a position to command narrow approaches in front of any platoon by oblique fire from other platoon localities, which he certainly would not be able to do if the guns were retained by platoons and used purely as platoon weapons. It is, easy to understand that a platoon commander would regard his Lewis gun as a means of defending his own locality, and would be strongly averse to using it for the benefit of his neighbour.

Once the Lewis gun was regarded as a company weapon, close liaison between companies would follow as a natural corollary, and would result in economy of fire power and increased efficiency of defence.

Let us imagine, for instance, the Lewis gun defence of the localities allotted to "A" and "B" Companies (see sketch "A"). It will be noted that there is a big nullah leading into each locality, together with several smaller nullahs. In front of "B" Company there is a defile "Q" between the two hills. "A" Company can command this defile, but "B" Company cannot see it. Note, too, the bend X—Y into the nullah in front of "A" Company, which can be commanded from "B" Company's locality, but which "A" Company cannot see. By a close liaison between companies, each company, by means of its Lewis gun platoon, can effectively command the most dangerous defiles in its own locality, and at the same time assist its neighbour. The smaller defiles are entrusted to rifle sections.

It may not always be possible to site the guns close together as in the sketch. There are great advantages in doing so, however, from the point of view of control and ammunition supply.

Conclusion.

The advantages claimed for the proposed system are, briefly, as follows :—

- (a) Full use is made of the Lewis gun throughout the action.
- (b) By using guns in pairs, a complete breakdown at a critical moment is avoided to a great extent.
- (c) Increased fire power at decisive points.
- (d) Closer liaison between companies and Vickers guns.
- (e) Increased facilities for control and ammunition supply.
- (f) Increased facilities for co-ordinated and systematic training.

DESERTION.

BY CAPTAIN H. BULLOCK.

“ All Officers and Soldiers who shall desert, either in the Field, upon a March, in Quarters, or in Garrison, shall die for it.” (a)

Since the Crusades, the offence of desertion has always been recognised in our Army as a military crime of the first degree. Field-Marshal Viscount Wolseley has said that “ desertion in the face of the enemy is the greatest of all military crimes. It is greater even than cowardice, for cowardice may be constitutional, whereas desertion is deliberate and premeditated.” (b) When discipline first invoked the aid of the Law to its maintenance, it was in respect of the punishment of desertion, for we find that “ down to the passing of the first Mutiny Act the only direct assistance given by the Law in the enforcement of military discipline was effected by certain statutes which made desertion punishable by civil tribunals as a felony.” (c)

The Articles of War of 1673 (d) (made for the Dutch War) being applicable only to a force on active service, hardly distinguish between cowardice in action and desertion in the field. For instance, Art. XXI provides that “ when the Army, or any part thereof, shall come to engage the Enemy in Fight, whoever shall run from his Colours (be he Native or Stranger) or doth not defend them to the utmost of his power, so long as they are in any danger, shall suffer Death for it.” And further (Art. XXIII). “ When it shall please God that Our Forces shall beat the Enemy, every Man shall follow his Officer in the Chase”, and (Art. XXIX) “ No Officer shall lye out all Night from the Camp or Garrison, without his Superior Officer’s leave obtained for the same, upon pain of being punished for it as a Court-Martial shall think fit.” At this period, simple desertion on active service, unaccompanied by other special circumstances, does not seem to have been envisaged, and cannot have been prevalent.

(a) Articles of War (for the governance of the troops in Ireland), 1689, Art. XXIII. See *Journal of the Society of Army Historical Research*, October—December, 1925.

(b) *The Life of John Churchill, Duke of Marlborough*, by General Viscount Wolseley, K. P., London, 2nd edition, 1894, Vol. II, p. 81.

(c) *Manual of Air Force Law*, 1921, Ch. II, 13 (p. 11).

(d) Copy in the library of the Royal United Service Institution.

An Act of the year 1439 made it a felony for a soldier to leave his Captain and the King's service without licence : later Acts re-affirmed this principle. (a)

The first Mutiny Act (that of 1689) took cognisance of two offences, mutiny and desertion, which it empowered courts-martial to punish with death. This Act and its successors of the same name gave legal authority, somewhat intermittently, it must be confessed, to the maintenance of the discipline of the army in peace ; in war, and abroad, the troops were subject to Articles of War.

These two offences of mutiny and desertion had been, from the earliest times, the chief problem with which our military leaders had to contend in maintaining discipline, and it is probable that not until the advent of the New Model Army was any appreciable progress made toward the actual enforcement of a discipline of a quality comparable with that ruling in our armies in recent years. The military code of the New Model "took cognisance not only of purely military offences, but of many moral delinquencies, even in time of peace." "Swearing was checked principally by fine, drunkenness" (to-day a military offence) "by the wooden horse." Public misconduct was mulcted in public disgrace, fornication was visited with the lash. (b)

Desertion was rampant in every army in Europe during the early part of the 18th century. Exemplary punishments were inflicted : a thousand to fifteen hundred lashes was no uncommon sentence on a deserter, whilst not a few such offenders were actually shot in Hyde Park. The net of the law was drawn closer, and a clause against concealment of deserters was inserted in the Mutiny Act of 1708-9. (c)

Again, after the peace of Utrecht, "the noxious weeds of desertion and fraudulent enlistment flourished with amazing exuberance, and no severity of punishment had power to root them out. Week after week deserters were brought into Hyde Park, tied up to the halberds, or simply to a tree, and flogged with hundreds of lashes. Every variety of scourging was tried that ingenuity could suggest. Sometimes the instrument employed was the cat, sometimes the rod, sometimes a twig, varied in the case of the cavalry by cloak-straps and stirrup-leather.

(a) See *Manual of Military Law*, 1914, Ch. II, 7 (page 7, note (g)).

(b) *History of the British Army*, by Hon. J. W. Fortescue, Vol. I, p. 282-3, second edition, 1910.

(c) *Ibid*, p. 571.

Sometimes the whole regiment did the part of executioners, sometimes the guard, sometimes the drummers only. Sometimes the culprit ran the gantlope, accomplishing the unpleasant journey as quickly as he could, sometimes he walked with the halberd's point before him, lest he should hurry unduly. Sometimes he took the whole of his punishment at one time and place, sometimes in instalments of a hundred lashes before the quarters of his regiment, a practice akin to "flogging round the fleet". Often he received two or three floggings in as quick succession as the state of his back would permit, the execution being followed in many cases by "drumming out", with every circumstance of degradation. The sentence of death was often pronounced by courts-martial and not infrequently carried out, a deserter convicted for the third time rarely escaping with his life. Many a man was shot in Hyde Park during the twenty years of peace, and no opportunity was lost to enhance the terror of the penalty, the firing party sometimes consisting solely of fellow-deserters, who were spared in consideration of the warning given by the ghastly body which their own bullets had pierced." (a)

About 1784 the amount of desertion was appalling, although the King gave warning that he would confirm sentences of death on deserters. Once more, to quote Mr. Fortescue, "in Ireland the average number of deserters from the infantry in every year was twelve hundred, or one-sixth of the total establishment. The evil rose to such a height that in 1788 the Lord Lieutenant opened depots for deserters at Cork and Dublin, where they were tried, sentenced to perpetual service abroad, and shipped off in large batches, chiefly to the Sixtieth Regiment in the West Indies, where it was thought that there were fewest facilities for them to desert again." (b)

"The root of all the evil in the army was that the pay of the men was insufficient and the stoppages excessive....the only alternatives open to the private soldiers were to desert or to starve." In the words of the Adjutant-General, writing in 1790, "unable to satisfy the common calls of hunger, and being without hope of relief, the soldier naturally deserted in despair." (c)

Desertion was all too frequent in our army in the Peninsula; though "the main body of deserters were supplied by two battalions

(a) Fortescue, Vol. II, pp. 32-3.

(b) *Ibid.*, Vol. III, p. 518.

(c) *Ibid.*, Vol. III, p. 520

only, the *Chasseurs Britanniques* and Brunswick Oels Jagers" as regards the foreign battalions in the British Army, amongst which crime was far more frequent. Its prevalence caused the Duke of Wellington considerable concern: as he said, it was a crime which had till then been almost unknown in the British Army on active service. He ascribed it chiefly to three causes: the bad stamp of men received from the Irish militia, "subaltern officers not of the best description," and "irregular habits acquired in the retreat through the north of Spain in the winter of 1808-9." (a)

Larpent, Wellington's Judge Advocate-General in The Peninsula, describes the desertion in his diary as "terrible". Desertion to the enemy in Wellington's Army was, almost exclusively, punished by shooting to death. Those who escaped the extreme penalty were transferred for life service to a colonial corps, or got off with a flogging of a thousand lashes or so. (b)

So we see that history places desertion second only to mutiny as an offence against discipline, and moreover that in the opinion of at least one great soldier desertion to the enemy is a graver offence than mutiny. To this day the offence of mutiny, whether committed in peace or in war, is punishable with death under our military code. The desirability of inflicting the extreme punishment in peace for mutiny has very recently been reviewed by a committee, the report of which sums up the cogent reasons for continuance so briefly that an extract may be quoted. "Mutiny necessarily involves collective or combined insubordination, or a conspiracy to that end. It may lead to a total subversion of discipline, and is the most serious of military offences. We feel bound in these circumstances to recommend that no change be made in the relevant section (Section 7) of the Act." (c) The whole question of capital punishment for military offences was discussed in the House of Commons as recently as April, 1926, during the passage of the Army and Air Force (annual) Act through committee.

(a) *Wellington's Despatches*, edit. Gurwood, second edition, Vol. VI, p. 16 and p. 617 (letters dated 6th April, 1810 and 12th November, 1810). *Fortescue*, Vol. VII, 422. *Private Diary of F. S. Larpent*, 2nd edit. 2 vols., 1853.

(b) See "*Wellington's Army*", by C. W. C. Oman, London, Arnold, 1912, chap. XIV ("Discipline and Courts-Martial"). The whole of this chapter will repay study by those interested in military law.

(c) *Report of the Inter-departmental Committee on Proposed Disciplinary Amendments of the Army and Air Force Acts, 1925* (Cmd. 2376).

Desertion in the field is still punishable with death: The maximum punishments for attempted desertion are the same as those for actual desertion, under the British as also under the military code of the United States of America, which enacts that "any person subject to military law who deserts or attempts to desert the service of the United States shall, if the offence be committed in time of war, suffer death or such other punishment as a court-martial may direct, and, if the offence be committed at any other time, any punishment, excepting death, that a court-martial may direct."

(a). The French code, which incidentally recognizes seven degrees of desertion, is less strict, only desertion to the enemy being punishable with death. (b)

"The offence of deserting or attempting to desert His Majesty's service implies an intention on the part of the offender either not to return to such service at all, or to escape some particular service; in the latter case, though a man may intend to return when he has evaded such important service, he is liable to be convicted for desertion, just as if an intent *never* to return had been proved against him." (c).

In distinguishing between desertion and the lesser military offence of absence without leave, the test is therefore *intention*. "Absence without leave may be described as such absence, unaccompanied by disguise, concealment, or other suspicious circumstances, as occurs when a man does not return to his corps or duty until after the proper time, but there is no evidence that he intended to quit the service, or to evade the performance of some service so important as to render the offence desertion." (c).

A man charged with desertion may, alternatively, be found guilty of attempted desertion or of absence without leave, and if charged with an attempt to desert may be found guilty of actual desertion or being absent without leave (d) military courts being granted by statute a special discretion in this respect. (e) It must be remembered that a man charged with absence without leave may not, however, be found guilty of desertion, actual or attempted.

(a) Articles of War, 4 June, 1920, art. 58. See *Military Laws of the United States*, 6th Edition, 1921, 2 vols.

(b) *Code de Justice Militaire*, art. 238.

(c) *Manual of Air Force Law*, A. F. Act, sec. 12, note (a).

(d) *Ibid.*

(e) Army Act, section 56.

The Army Act and Air Force Act make certain provisions for the admissibility in evidence of documents used to prove the offences of desertion and absence without leave ; they are not, however, made conclusive evidence, and therefore evidence may be given to contradict them. For example, when an officer or soldier is charged with desertion or absence without leave, and the offender has surrendered himself to a Provost-Marshal, A. P. M., or to other officer or any portion of His Majesty's forces, a certificate purporting to bear the signature of such officer (or commanding officer of the portion of the forces) is evidence of the fact, date and place of surrender as stated therein. (a)

Similarly, when an offender charged with desertion or absence has surrendered to the police and has been delivered into military custody by the officer in charge of a police station *in the United Kingdom*, a certificate purporting to be signed *by* (not "*for*") such police officer is evidence of the fact, date, and place of surrender as stated therein. (b) By a further provision inserted by the Army and Air Force (Annual) Act, 1925, where an officer or soldier has been arrested and taken to a police station in any part of His Majesty's dominions, or has surrendered and has been taken into custody at any such police station, then for the purpose of any proceedings against the offender, a certificate purporting to be signed by the police officer in charge of the police station is evidence of the fact, date, and place of arrest or surrender as stated therein. (c) This clause is not only applicable to deserters and absentees, like the two clauses previously quoted, but is of general application : further, it appears to be operative in *any* proceedings, not only those under the Army and Air Force Acts, or for desertion and cognate offences.

A proposal that a similar certificate purporting to be signed by the officer in charge of a draft proceeding on foreign service should be received in evidence as proof of an individual's absence from that draft was recently put forward in Parliament, which referred the question to the Inter-departmental Committee already mentioned. It was, however, held by them that the difficulty had already been provided for by King's Regulations, and that no further action was called for. (d)

(a). Army Act, section 163 (j).

(b). *Ibid*, section 163 (k).

(c). *Ibid*, section 163 (m).

(d). See *King's Regulations*, 1923, paragraph 1095.

As regards evidence of desertion and absence, the only other matter necessitating notice here is the *descriptive return* (to be referred to hereafter), which when purporting to be signed by a justice of the peace is evidence of the matters stated therein. (a)

Certain additional provisions of the law of deserters and absentees include :— (b)

(i). Upon reasonable suspicion that an individual is a deserter or absentee without leave, any person may arrest him without a warrant (such person must, of course, be prepared to justify the reasonableness of his suspicion if it turns out to be false).

(ii). Justices, magistrates, etc., may issue search warrants for deserters and absentees.

(iii). If a man surrenders to the police, stating that he is a deserter or absentee, and his confession is obviously true, the police may at once hand him into military custody, without bringing him before a magistrate.

(iv). But if he is arrested on suspicion, or if the truth of his confession is not plain, the police must bring him before a magistrate or other court of summary jurisdiction.

(v). The magistrate, if satisfied that the individual is a deserter or absentee, may hand him into military custody or cause him to be confined pending the arrival of an escort. The magistrate must also cause to be sent to the military authorities a descriptive return, giving such details as the offender's age, height, appearance, clothing, and the circumstances of his apprehension.

(vi). If the magistrate is not satisfied as to the truth or falsehood of the individual's confession, he must remand him, and with a view to clearing up the matter, furnish to the military authorities the descriptive return already described.

(vii). Any person falsely representing himself to be a deserter from His Majesty's Regular Military or Air Forces is liable to imprisonment with or without hard labour not exceeding three months. There is no option of a fine for this offence. (c)

(viii). Any person who knowingly conceals a deserter or absentee; or who procures or persuades an officer or soldier to

(a) Army Act, section 163 (i).

(b) *Ibid*, section 154.

(c) Army Act, section 152.

desert or absent himself; or attempts to do so; or knowingly assists an officer or soldier to desert or absent himself is liable to six months' imprisonment with or without hard labour. Again there is no option of a fine. (a)

It only remains to note two more special provisions of the law in which it is interesting to find the two offences of mutiny and desertion again linked. With minor exceptions, a person who since the commission of an offence has ceased to be subject to the Army Act (or Air Force Act, as the case may be) can only be tried within three months after he has ceased to be so subject; but an exception is made in the case of mutiny, desertion, and fraudulent enlistment, for which he may be tried at any time, subject to certain restrictions noted below. (b)

Again, on the expiry of three years from the commission of an offence, an offender is free from trial or punishment under the Army (or Air Force) Act, save only for the offences of mutiny, desertion, and fraudulent enlistment. As regards these, mutiny and desertion on active service may be tried after the lapse of any period of time. For fraudulent enlistment and desertion *not* on active service, trial is time-barred if the offender has since the offence served three years in an exemplary manner in His Majesty's regular forces. (c)

(a) *Ibid*, section 153.

(b) Army Act, section 158.

(c) Army Act, section 161.

BATTALION INTERCOMMUNICATIONS.

By

LIEUT. A. P. BLOCK.

In the annual report on training of the army in India, for 1925-26 two small sentences appeared which were of vital importance to battalion inter-communications. These two sentences were to the effect that (1) when practicable battalion communications should be organised on Main Artery system, and (2) runners should work under the signalling officer.

These in no way explain any system to be used, but are only authority for that taught at the Army Signal School (India). The present time would therefore seem to be propitious for explaining that system. Especially is it important that it should be known by non-signalling officers without whose co-operation it will not give the best results.

It is the system as now taught at the school that it is the purpose of this article to expound. An encounter attack in a war of manœuvres will be considered because in position warfare communications can be elaborated. A battalion will be imagined to be working in a brigade which is part of a division. During battalion training, especially in small stations where none or few other troops work with the battalion, one gets an entirely false impression of how far the units establishment of signallers will go. This article is based therefore very largely on the principle of economy of force; in this case economy of personnel and equipment, and it is hoped and thought, that the arguments put forward will convince anyone who may happen to read it through that this system will work. It anyhow allows of two essentials: (1) Co-operation with neighbouring units and supporting arms, and (2), a reserve.

To deal with the three means of communications in turn :—

Visual Telegraphy.

It is believed that if one casts one's mind back to the war or to manœuvres it will be agreed that the number of occasions on which battalion H. Q. could actually see the H. Q. of the companies

in the front line have been few. Therefore in the majority of cases V/T has been worked to these companies either :—

(1) by the company signallers occupying a different position from their company H. Q. in which case communication has been most unsatisfactory ;

or (2) by using a transmitting station between the company and battalion stations, in which case the signalling officer has continually to keep men up his sleeve to send out as companies go out of sight. He can neither afford the personnel nor the equipment.

Again, company H. Q. are always making minor moves. These make V/T extremely difficult to maintain. A message is handed to signallers to send. Company H. Q. move. Signallers have to stop to send the message and then have to catch up. In fact it will probably be agreed that V/T to the H. Q. of the leading companies is unreliable. It is recommended that a station should go out in line with the leading company H. Q. and about in the middle of the frontage. The signalling officers should normally be able to keep this line open from battalion H. Q. to the forward station. Even if it does go out of sight of H. Q. he has only to find a transmitting station for one line. And therefore it is recommended that V/T within the battalion should take this form, see fig. 1. If a transmitting station is necessary it is most efficiently controlled by the forward station who are the first to know when they are going out of sight. They are therefore given three extra men. One N.-C. O. or man must be in-charge of the forward station. His usefulness will become more apparent. He is not tied down but chooses his own position.

By this means to get messages up to the front seems simple. It is reliable (compared with visual to companies anyhow). It need not undergo alteration to meet changes in the situation. It is fully realized that the quickest way to send a message from one H. Q. to another is to give signallers to each and communicate direct. Therefore it may be argued that this system does not fulfil the fourth essential of good communication, "speed". But it will be seen that there are neither men nor equipment available to give signallers to companies.

As well as the above, V/T must be arranged to brigade, right and left battalions, and artillery if required, see fig. 2. The battalion

H. Q. station must also have a N. C. O. i/c of it. This is all the V/T communication. It is surely a minimum.

Line Telegraphy.

Before sending line out it is most important to consider "will it be useful once it is out?" It would be useless if the troops were moving faster than it could be reeled out. It should be kept at H. Q. under the hand of the signalling officer who should know directly the situation warrants it going out. If it were reeled out direct to companies it would of course work whilst the situation was stationary. But it would very seriously tax the personnel and equipment available. Again if it is agreed that it is not always an easy thing to see the leading company H. Q., and if the Main Artery system for V/T is accepted, where are the reeling out parties going to be sent? "Somewhere in that direction?" It is the maintaining of the line in a workable condition that is both difficult and costly in lives. So the fewer lines the better. But in spite of these difficulties, if line was out to the leading companies, while the situation was stationary it would work. Now think of the "chaos" is almost the right word....that would ensue directly a move took place. Enough line would not be available to follow company H. Q. and enough personnel would not be available to reel it all up. So, many men and much equipment would be left behind in an advance, or the line abandoned to the enemy in a retirement.

It is recommended that when L/T is reeled out it should go to the forward visual station. Think of the advantages:—

(1). The cable party would at once actually see where to go because the H. Q. and forward V/T station are in communication even if through a transmitting station.

(2). The means of communication up to the forward station would be doubled. If one failed the other could be used.

(3). Cable laying would be a much more practical proposition. It would be quite feasible to use it during a slow advance. As it is always being reeled out in the right direction no movement would be uneconomical.

(4). Only one line need be maintained.

This method is simple and easy to understand. It is far the most reliable. It need undergo no alteration to meet changes in

the situation. Again it is agreed that the quickest way to get communication from here to there is to lay it out direct. But, from all the above, the enormous majority of messages would get to the front companies quicker and more certainly by the Main Artery system, see fig. 3.

Normally brigade would send L/T to battalion H. Q. But this may sometimes be either inconvenient or impossible, in which case the battalion signalling officer will have to lay line to the brigade forward centre. Brigade and battalion commanders generally like to be able to speak to each other over the telephone if they cannot actually meet, see fig. 4.

Runners.

It is admitted that if battalion H. Q. can actually see the company H. Q. to which it wants to send a message, the quickest way would be to send a runner direct. But the following are definite advantages if runners, like V/T and L/T are used on the Main Artery system:—

(1). There would never be any doubt in the runner's mind as to where he would have to go. He could actually see the station to which he would have to run. He would, normally, only have to know one route.

(2). At night the system would hold good. Runners could either run with the line in their hand, or could run (towards the front line) to an exposed lamp.

(3). Runners should be taught how to make simple joints in cable. They would be most useful to examine the line during their runs.

(4). If runners used to Main Artery system a runner casualty would be quickly found because it would be known where he was.

(5). The length of runs would be limited. A message run up the Main Artery would be relayed to companies by a fresh runner, and *vice versa*.

(6). It is only one system, therefore easy to understand. It is simple and reliable, there is necessity for alteration to meet changes in the situation; therefore it is much quicker in the majority of cases, see fig. 5.

Again, the battalion has to find runner communication to and from brigade. Two must be sent to brigade advanced centre and two must be kept at battalion headquarters to run to this centre. The N.-C. O. i/c H.-Q. station must be i/c of runners to arrange for their organization, reliefs, etc., see fig. 6.

It has not yet been arranged for messages to get from the forward station to the H.-Q. of companies in the front line. Presuming the average frontage of a battalion to be 1,000 yards then it is doubtful whether, at the worst, the company H.-Q. would be more than 250 yards from this forward station. They might be less. It is considered that the quickest way for this is to run messages out and in to the forward station, (the word run of course includes the word "crawl.") Similarly if the company commanders of the reserve companies were not actually at battalion H.-Q. messages could be run to and from their H.-Q.

Company and machine-gun H.-Q. would have at least two runners each to be used from company H.-Q. back and not within the company, see fig. 7.

From this alone it would seem reasonable that runners should be trained and work under the signalling officer since they are a definite means of sending a message from here to there. They should always be trained to write down and call out a simple message. They can then be regarded as a form of signal reserve in case of necessity. It would seem therefore to be detrimental to efficiency were there not unity of command over all the inter-communication personnel of a battalion.

For complete distribution of the battalion inter-communication personnel, see fig. 8.

Distribution.

How many men have been used ?

			<i>N.C.O.s.</i>	<i>Signallers.</i>
A. <i>Signallers.</i>	Forward station	V/T	1	and 5
	Headqtr.	„ „	1	„ 10
	L/T forward	.. ..	..	.. 4
	Counter clerk	.. ..	..	.. 1
	Reserve	.. ..	..	.. 10
	Total	.. ..	2	30

(War establishment
of an Indian in-
fantry battalion)

From a reserve of only 10 men the following contingencies have to be met:—

- (1). Replacement of casualties.
- (2). Replacement of tired men. The signal personnel really come into their own as soon as the situation becomes stabilized. Therefore they do not get the rest most of the ordinary troops have.
- (3). Brigades are almost certain to ask battalions for personnel.
- (4). A battle surplus will have to be left out of the line.
- (5). Certain situations demand extra communication. For instance, if one company was sent on a flank attack and if it would thereby be distant from the forward station, it would have to be given signallers. In certain circumstances it may be necessary to form a leap-frog station to go through with a rear wave. But this is getting into details which it is the intention of this article to avoid.
- (6). When a H.-Q. is vacated intercommunication personnel have to be left there until the new one is established.
- (7). Whenever the machine-gun H.-Q. goes far away from either the H.-Q. or forward station it must, like a company H.-Q. have signallers allotted to it.
- (8). The line must be reeled up when no longer required.
- (9). If the equipment for co-operation with aircraft has to be used, signallers must be available to work it.
- (10). Line communication to brigade mentioned above.

B. Runners. The number in reserve depends entirely on how many there are trained in a battalion. This varies in different units. The C. O. may want to run a message to a flank battalion. A reserve runner would be used for this.

C. Equipment. It would not be efficient to have one system for use on a cloudy day and another for a day on which the sun could be relied upon. Even this system would, on a cloudy day, use at least 6 out of the 8 lamps that a battalion has in India.

Conclusion.

1. It will be seen that if the establishments of personnel and equipment are adhered to it is impossible for the signal section to provide communication within the companies or the machine-gun platoon. The signalling officer's responsibility ceases at company

H.-Q. It is not within the scope of the present article to discuss communication within the companies or machine-gun platoon.

2. From all this one thing must stand out very clearly. The nearer company H.-Q. are to the Main Artery the better for their communications. Commanders are always wanting to speak to each other. If company commanders could come into the forward station this would be possible directly line was up. They could anyhow be informed as soon as line was up and could come into speak if they wanted to.

3. It is possible, indeed it must be part of the N.-C. O.'s job at the forward station, to know exactly where front company H.-Q. are. This would simplify matters because there is always a difficulty in knowing where anyone is. Similarly the N.-C. O. at the H.-Q. station must know where the following are to be found: Commanding Officer, Adjutant, Quartermaster, Reserve Company Commanders and the Regimental Sergeant Major.

4. Does it not seem that the inter-co-operation of company commanders in the front line is simplified by having a station between them which knows where both are? The commanding officer going round the line would only have to call at the forward station to be told where the front company H.-Q. were.

5. When a commanding officer either advances or retires a new H.-Q. should be opened for him before he reaches it. This somewhat difficult task is simplified by this system. Perhaps he might even make his new H.-Q. at the forward station.

6. The present writer believes he is right in saying that no two battalions organise their communications in the same way. Surely there would be some benefit to the service if they all used the same system.

7. If all these means of communication are organised by the signalling officer, he or his signallers are in a position to be able to say by which means a message will most quickly get through. Therefore the signaller i/c of a station should normally be handed a message and must decide himself by which means it will go.

8. Finally, the signalling officer should have timely warning of developments in the situation, because his job is to look ahead. Therefore we recommend that he sits in the pocket of either the commanding officer or the adjutant and finds out what is happening.

If he does this, when a H.-Q. moves it should find communications already waiting for it.

The Manuals.

There is no mention in any manual of how the intercommunications of a battalion should work, except one short sentence in Signal Training, Part II, 1921, Sec. 208, para. 16. This was mentioned in the report on the 1925-6 Annual Training. But it is significant that this is the only quotation from a Signal Training Manual. It may be noticed that the word "units intercommunication personnel" recur in the following references.

I. T. 2 1926. Sects. 5 (6) & (7)—9 (4)—10 (6).

F. S. R., I. Sects. 82 (20)—89 (6)—90 (7)—91 (4) (5 & 6)—92 (3, 6, 8 & 10).

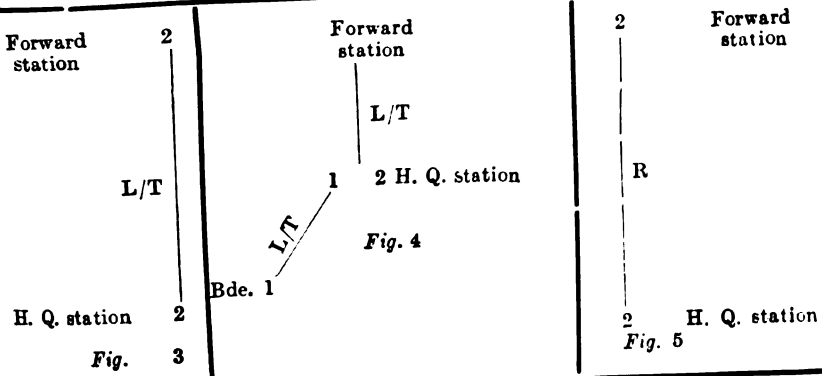
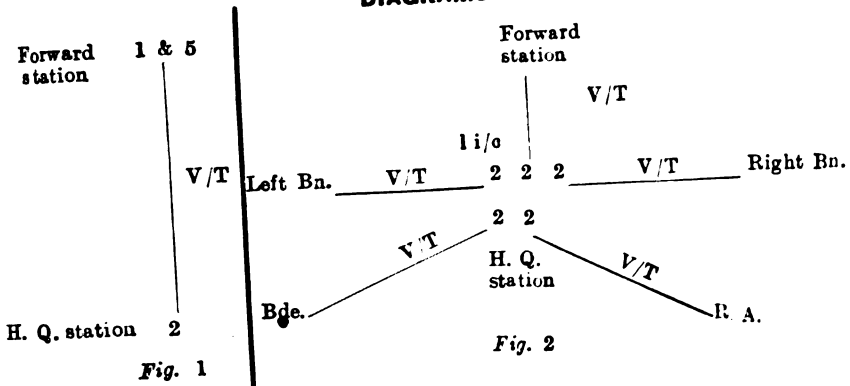
F. S. R., II, 1924. Sects. 27 (4, 5, 6 & 7)—86 (4).

From these this article has been written.

Although the above is written to apply to open warfare the system is directly applicable to mountain warfare. The use of runners would be greatly modified. Visual signallers would be allotted to each company and machine-gun H.-Q. and the Main Artery would be along the river bed. Regimental signallers would also be allotted to important or distant piquets.

The number of units external to the battalion, with whom communication is necessary in open warfare, are reduced in mountain warfare, thus swelling the reserve of personnel and equipment and making this allotment of signallers possible. This system was used exactly by the present writer's battalion in Waziristan in 1920-21.

DIAGRAMS



Forward

Forward

AN ASPECT OF THE TRAINING OF THE AUXILIARY FORCE (INDIA).

By

COLONEL D. S. MACKAY, V.D., A.D.C., A.F.I.

“The training of the Auxiliary Force will be based *strictly* on the duties likely to be required of it in the event of an emergency necessitating the calling out or embodiment of the force under the Act. These duties must differ to a certain extent according to the various conditions ruling in different parts of India.” (*Regulations for the A. F. I.*, 1921, *para.* 85).

The object of this article is to suggest that there is an increasing tendency towards training the infantry units, in particular, of the Auxiliary Force, India, not strictly on lines commensurate with the work they may have to perform.

This question probably verges on criticism of existing regulations, but nevertheless, in these few pages it is intended to put forward brief impressions and suggestions on the subject.

In the old volunteer days, the “tactical exercise” might be framed that,

“Russia has declared war on England. The officer commanding “A” Company has decided to hold the bridge over the nullah,” and we want to avoid any semblance, if such persists, of this old futile, if amusing, attitude, in our present Auxiliary Force training and outlook.

Colonel-Comdt. A. E. McNamara in the January issue of the “Journal,” writes in connection with tactical exercises with regulars, that

“The object of a day’s training with troops in the field is to practice them in the execution of certain phases of an operation of war.”

This might be adapted for the Auxiliary Force, India, to read, “The object of a day’s training with Auxiliary Force soldiers is to practice them in the execution of certain phases of an operation which might arise when that force is putting into execution the Internal Security Scheme for which that part of the force is wholly or partly responsible; or in performing duty in aid of the civil power.”

But this may be considered too narrow and circumscribed a definition of the *raison d'être* of the force, for the following reasons.

In the first place, the force is auxiliary to the regular forces. Working from that basis, the training of the force is designed on lines (and with the same training manuals) which within the very limited time, money, and material available, will bring the force to a point of efficiency as near to "soldiers" as can be reached. This, on the face of it, appears to be perfectly logical, and as the force is guided by regular soldiers, it can only be expected that the leaning towards that point of view should be marked.

Recent history has some bearing on the subject. In the Great War, the "conscript" Indian Defence Force was formed from the old volunteer force, and from the very nature of its regulations, and from the fact that it was functioning in a time of intense patriotic feeling, it was a far more efficient military body than the "volunteer" Auxiliary Force can hope to be.

But regarded as an auxiliary to the fighting forces, although in the time of the greatest stress the Empire has known, the Indian Defence Force was found to be of very limited scope. Army Headquarters, and public opinion generally, considered that, while the Defence Force battalions could not be expected to be trained as fit to take their place in the firing line, it was feasible that some part of the force should be made suitable and available to relieve a number of the fighting troops held in India on garrison duty.

The one and a half service battalions, specially formed in 1917 for that purpose, never did fulfil entirely their rôle, and beyond this, and some detachments of various battalions in different parts of India mobilized for special duties, the Indian Defence Force was found to be of little military value.

In writing thus, no reflection on the officers (the writer was one) and men of the force is in the slightest degree intended. They were doing everything which was within their power to serve the Empire at a time when a certain number of Europeans and Anglo-Indians were compelled to "carry on" in India, no matter how severe the strain of war outside.

The point it is intended to bring out is the extent to which the "Auxiliary" force in India has in the past been useful so as to decide to what pitch of efficiency as soldiers it will pay to aim at

now in view of the very limited training period at the disposal of commanding officers.

The only other military usefulness which emerged lay in the fact that a large number of officers and men of the Indian Defence Force served in the British and Indian Armies. But those officers and men who were able to go from the Indian Defence Force to the army, would have received the same training had they gone direct to their regiments. As a recruiting field, or as a training ground, therefore, the Indian Defence Force did not perform any special function.

So much for the purely military utility of the Auxiliaries.

But there was another, and more important, side to the existence of the Indian Defence Force, and that was as regards "internal security," and it is this point which is, perhaps, in some cases now-a-days in danger of being pushed into the background. The security scheme in the mofussil stations of India depended almost entirely on the officers and men of the Indian Defence Force. The fact that there was such a dependable framework, however slight, must have been a help and relief to those responsible for the internal security and safety of the country-side in a time when India, to quote a Viceroy, was "bled white" of troops.

It is the writer's belief that the main reason for the existence of the Auxiliary Force, India, must still be "internal security," and that reads remarkably like a platitude! Nevertheless, the force in most cases is being trained as "fighting" troops, and on the latest (and unadapted) lines of training laid down for regular soldiers.

Does such training actually include the lesser and more inglorious preparation for internal security purposes, and co-operation with the civil authorities in the maintenance of order, particularly in small stations? It should in theory do so, but the writer doubts whether the very limited number of hours annually, which are possible and required as training, are sufficiently devoted by units or detachments to learning work bearing on the reasons for which the force exists, and that the brief training period, chiefly in the annual camp, is largely wasted in "playing at soldiers." Does the force exist for internal security, and duty in aid of the civil power, or to produce soldiers?—that is the point on which more guidance is sought.

Apparently it is regarded by "Higher Authority" as a definitely military body. The analogy of the Territorial Force at Home is possibly in the back of the minds of those responsible. It is not necessary to give reasons, but sufficient to say that there is hardly a single point of resemblance between the two forces, nor in the functions it is proposed that they shall fulfil. One great point of dissimilarity may be noted. The Territorial Force can be sent overseas. The Auxiliary Force cannot, nor can the men be moved outside their own civil districts. What enemy is likely to arise in the districts, the defeat of whom will require men trained purely on the lines of British Infantry?

The Auxiliary Force Directorate are regular officers, the Adjutants of the Force are regular officers. In addition, a large sprinkling of the officers of the force are veterans who served in the war. So what more natural than that *unadapted* military training should be considered as the right and proper thing for the Auxiliary Force. Anything else, to the regular soldier, is unthinkable,—if it were, why, he would ask, has he, a regular soldier, got anything to do with it? If the force is a police force, then let police officers train it!

The regular soldier's point of view, is "as sound as a bell." But this article is intended to try to make suggestions whereby some more clear-sighted attempt could be made to "split the difference," and see whether the exclusively military idea cannot be more systematically modified, so that the force can devote its very limited training hours to work likely to be most useful to its functions. Admittedly that training will be military training, which must be its foundation in everything,—but with limitations.

".....All the A. F. I. are detailed for the preservation of internal order and support of the civil power, and...should be regularly exercised in the *special work* likely to fall to them." (Training and Manœuvre Regulations 1923, page 10.)

During the Great War the busy regular soldier had not much time to think about the local training of the internal security forces, or the incongruity of teaching the men of the Indian Defence Force to dig trenches (war trenches, and not such as might be necessary in defence of a "keep,") and to throw bombs, and to use the bayonet, ("grunt when delivering the point,") would have occurred to some

one. No,—everyone had to be trained as a soldier to fight an enemy armed with modern weapons. For the purpose of such training, the army provided large supplies of signalling apparatus, and other expensive military equipment, which in many cases was never touched.

However, those hurried times are past, and we should see that the same kind of mistakes are not creeping in, even if on a small scale, as there may be a distinct possibility of such inclination where professionals are legislating for and directing amateurs.

The Auxiliary Force Infantry (to take them as an example, being the most numerous arm) are still being trained (as nearly as can be attained in a few hours) like regular soldiers. The very limits of time should show the absurdity of the attempt. In every annual training camp it is quite certain that one will find "Infantry in the Attack" being assiduously practiced, and very likely a demonstration platoon from a regular regiment will be present to show the Auxiliary Force men how it should be done. (Training and Manœuvre Regulations, 1923, page 11). And the D. A. D. A. & T. F. (a regular) and the regular adjutant, and the war veteran commanding officer, and his percentage of war veteran officers and men, will all highly approve, and be reminded of the great days of their soldiering in France or Mesopotamia! (As an example, it is on record that it was found difficult even with the regular army, after the war, to get the idea absorbed that trench fighting is not the normal and to-be-expected-in-the future method of warfare.)

May one enquire what these auxiliary force "infantry in the attack" propose to attack, in "diamond" or "arrow head" formations. What artillery fire are they being taught to avoid? Is it the Bolsheviks from over the border? If the Bolshevik forces ever reach Junglepore, the Auxiliary Force will not keep them out!

Would it not be more useful if the officers contrived schemes, and the men were practiced in the extremely difficult work of collecting and escorting something to represent women and children, treasure and records, to a central spot, (Auxiliary Force, India, Regulations, para. 86). There is plenty of scope for organization, leadership, and soldierly resource and intelligence. (Some detachments do occasionally carry out this sort of thing, but the practice is far from being a general one).

It does not need much imagination to say that when an Auxiliary Force detachment is required to do a "job of work," it will not move as a company or platoon of regular infantry on the march, all complete with Lewis guns on mules, and so forth. Rather will it be, for instance, bundled into cars, to move to its objective, or do its work quickly. The suggestion made, in brief, is that training should be modelled on lines which will prevent the "bundling" from degenerating into "muddling," when situations arise for which "it is impossible to prepare beforehand a scheme suited to every eventual-ity." (Training and Manœuvre Regulations, 1923, page 10).

And how many units know much about holding a street, or action in the face of a mob, or defending a group of buildings. Street (bazaar) fighting is an unknown subject. Practically nothing has ever been written on it in any manual and it is admittedly difficult to practice.

Another point. Is collective field firing, as generally carried out, ever likely to be put into use by the Auxiliary Force? It is suggested that such an event is inconceivable, taking into consideration the formation and uses of the force, and any enemy it is ever likely to encounter. Would it not be better if such time and ammunition were devoted entirely to, at the utmost, individual field firing, or such practices as might be useful to men in a tight corner in their own station. (It might be here remarked that these suggestions and criticisms are not intended to apply to battalions or regiments in Presidency towns, where such corps are concentrated in one place, but to the scattered units which form the great bulk of the Auxiliary Force throughout India).

To take another item,—and this is where military training is particularly useful,—Lewis guns. This is probably the most useful weapon ever issued to an Auxiliary Force. Every selected man with the time and intelligence, European and Anglo-Indian, should be taught to handle the Lewis gun. But here again, the "ultra military" part of the training appears to be waste of time and money. Mules are excellent to carry the guns and ammunitions. But mules are normally only within the reach of regular troops, therefore what can be the possible use of borrowing mules, and teaching Auxiliary Force Lewis gunners to load and handle them, in the annual camp? If the Lewis guns are ever moved about in a mofussil station in time of danger, it would almost certainly be done in cars. So why not

practice "busing" and "debusing", arranging loads, moving as a "bus column," and fighting the Lewis gun and rifle detachments from the cars available in the station. (Some units have their armoured car sections, but others are not so fortunate, and outlying detachments cannot expect to run armoured cars, whereas the "Ford" abounds everywhere).

An Auxiliary Force detachment, in a particularly flat district, has been known to waste its limited hours on elementary instruction in mountain warfare, under an enthusiast who knew all about it! Interesting, and "real soldiering", but what has it to do with the Auxiliary Force?

This instance or two should be sufficient to indicate a few of the things to avoid, and the ways in which a line of training could be arrived at likely to be interesting and useful, and which would *make use of the material at hand*, and in a manner having closer connection with possible practical needs. No extra expense, but possibly a saving of money would be shown. (The Boer Commandos were, on their own lines, extremely cheap and efficient).

If the writer is labouring an admitted fact, he pleads that the way has not been pointed out definitely enough, and what is "verboden" has not been laid down. (The Railway Regiments are largely practiced in work which might fall to their lot, and set a good example).

Or it may be that higher policy intends that the Auxiliary Force should be trained as soldiers, and that it is believed that such training for a few hours annually will automatically embrace, and make the force fit to perform its more limited and specialized functions. It may be the intention to use the best officers and other ranks as officers and men in the army in time of need. But in that case, what will be the use of the residue, and what becomes of the rank and file, particularly the Anglo-Indian soldiers; and does not the Army in India Reserve of Officers scheme fulfil the function of training officers more thoroughly than the Auxiliary Force?

The writer feels that the suggestions put forward above may be considered unnecessary by many Auxiliary Force officers, and at the same time somewhat difficult of focussing by those Regular officers who are responsible for the training, and the distinguished Generals whose inspections do honour to the force. But if a small lingering

doubt can be introduced into the minds of those responsible, that perhaps the "Infantry in the Attack" and the Light Horse at the "Charge," is being rather overdone in some cases, the writer feels his brief outline of suggestion,—or reminder,—will have served a useful purpose. The subject is a somewhat contentious one, and perhaps some other member of the Auxiliary Force may be good enough, with the Editor's permission, to give his views.

SOME NOTES ON SCHOOLS OF INSTRUCTION.

By "PORTHOS".

The fact that the shortcomings and iniquities, real or imaginary, of our schools of instruction form a fairly common topic of conversation among regimental officers, is perhaps sufficient excuse for probing more deeply into the matter in an endeavour to decide what grouses are really legitimate; what are the causes; what are the possible remedies; and, in fairness, what are the disadvantages that handicap the instructional staff at these centres of military learning. It is not possible in the space of a short article to deal exhaustively with the matter so it is proposed only to deal with those points which are considered most important. Where remedies are suggested it is not necessarily implied that the schools themselves are making no effort in that direction.

The writer lays no claim to any particular qualification for his task beyond the fact that he has spent some five and a half months during the past three years at two of the principal schools and has also, at another period, himself been an instructor for about nine months at a central school. He has had therefore some experience on both sides.

On the authority of an army headquarters training report one may say that schools of instruction deal chiefly with individual, as opposed to collective, training. Now individual training has only one object or end, and that is to make the soldier in every way a better and more efficient man-at-arms than his enemy. Still jealously guarding our exclusiveness we will admit three "sub-ends" or subsidiary objects. One is to improve his moral and discipline, one is to maintain a high standard of physical fitness and one is actually to achieve efficiency with the weapon we put into his hands. Schools exist to assist the regimental officer in all these points but no one school deals with more than one of these subsidiary objects. All considerations, other than the real object of individual training as defined above, become merely "means" to the "end," and it is only the immediate commander of the man, who is responsible for combining all minor considerations into a perfect whole, who has the perspective to assign to each its proper place in the general scheme.

Now, human nature being what it is, no one likes being a "means" and, when he is one there is always the temptation to

pretend that he is really the "end". From what is written above one is compelled to conclude that a school of instruction is a "means" only to the "end", and it is submitted that this is the first disability under which a school labours. The instructor, placed by circumstances in a position of practically undisputed authority in his particular sphere and dealing exclusively with one highly specialised branch of training, would have to be more than human not to suffer some loss of perspective as to the real importance of his work. The resulting evil is that he tends to become dogmatic and bigoted. These are perhaps hard words but they are used rather to define a tendency than to bring any definite accusation. The remedy is not easy to find but might possibly lie in the direction of keeping the instructor alive to the existence of other points of view by schemes and lectures on other forms of training. Also, of course, by tours by all instructors round units. These unfortunately cost money.

A second disadvantage is that the instructor does not come into direct contact with the ultimate object of his training, namely, the private soldier. On the other hand, he deals only with officers and selected N.-C. O.'s who are not only above the ordinary private soldier in intelligence, but also possess a very fair knowledge of their subject before they ever come to the school. A further consideration is that the schools, as is only natural, are situated in ideal surroundings for their work and are also equipped with all appliances necessary for instruction; moreover, they are not troubled with those bugbears of the regimental officer, leave and duties. The result, if one may so express it, is that the actual process of instruction becomes very much simplified, all conditions being ideal, and the tendency is to lose sight of the difficulties that regiments have to face—a lower standard of intelligence, leave and duties, lack of good training ground and in many cases a shortage of training equipment. This leads to the school curriculum becoming academical and unnecessary attention being paid to details. To take a parallel from civil life, a boy who will eventually have to work for his living is taught, while he is at school, only so much of each subject as will be sufficient to start him in his profession. The study of the higher mathematics and of the more obscure classical authors is reserved for the few who may require it. This principle should apply equally to army schools though it is very easy to understand the difficulty that hampers them. For obvious financial reasons

their staff is cut down to a minimum and, since it is only by means of a more or less uniform organization that they can hope to achieve their maximum output, they cannot afford to cater separately for the varying needs of students from different units. They produce a general utility course and those passing it must adapt it to their own needs. One can only hope that they will bear in mind the difficulties that hamper units and frame their courses as nearly as possible to suit the needs of those who have to train the private soldier.

Yet another point is that the school only deals with one particular student for a comparatively short period of, say, three months. It does not therefore feel the evil effects of a change of instruction. At a school the change takes place between courses and has only to be taught to the instructional staff who are whole-time experts. In a unit something like chaos reigns. Firstly, the rank and file have to unlearn the old method and digest the new, and secondly, all pre-change instructors are automatically out of date until they can be put through a refresher course under the latest arrival from the school. With the press of duties this is not always too easy to arrange. Finally, as the school does not come into direct contact with the raw recruit and the private soldier there is no absolute guarantee that a change is really an improvement and is really necessary. Remedies again are not easy to find. Constant liaison with units will do a lot. It might be feasible for one or two selected units, preferably training battalions, to experiment with projected changes and report upon their suitability before they were finally adopted. Also, though it is feared that this is not feasible, if a school could once be made to introduce a change in the middle of one of its own courses, the instructors, having experienced the resulting confusion, would thereafter regard the unit's point of view with more sympathy.

In the author's opinion, however, the above disadvantages and their attendant evils are insignificant when compared with the real bogey that haunts the school of instruction.

A very large number of people would by Pelmanic process, at once associate "school" with "examination"—a relic of an unhappy childhood—and it is contended that the examination system is the real evil that is responsible for so many of the accusations that are brought against our schools.

Eminent educationalists have for some years been opposed to the system of examination and to marks, and the two go hand-in-

hand. The contention being of course that the real object of instruction is lost sight of in the scramble for marks. It is also universally recognised that very few people do themselves justice in an examination. On the other hand, of course, under certain circumstances they are inevitable, no better solution having been evolved. Let us consider under what circumstances they are excusable.

The true meaning of "to examine" is surely to find out something that you do not know already. If therefore you have 100 candidates for thirty posts you are perfectly justified in holding a competitive examination to find out what you do not already know, that is, which are the best thirty out of the hundred. Promotion examinations are not competitive, but on the other hand, in the modern syllabus, there are so many subjects that it is not always easy to say from personal observation whether a particular officer or N.-C. O. is fit for promotion; and the difficulty is increased when questions of extra-regimental employ come in. It is less invidious therefore to examine everyone though it would be ideal to examine no one. It is possible also, by compelling him to take them in the examination, to make a man study certain subjects which will increase his efficiency but which, left alone, he might ignore.

Nearly every school of instruction has a definite opening standard of knowledge and since, when a student arrives for a course, the school has no means of telling whether he is up to standard they are perfectly justified in examining him to find out.

Having once admitted the student the essential work of the school begins which is of course to train him; and so overwhelmingly important is this that every other consideration must give way and outside interference be reduced to a minimum. When the student has been trained the school has only two further responsibilities. The first is to ensure, before turning him loose as qualified, that he is up to the necessary standard; the second is to ascertain if he is sufficiently good to be admitted to the charmed circle of those who are registered as suitable for employment as instructors at the school. The grant of a "D" could quite easily be made synonymous with the latter.

The present method of finding out both the above points is by examination, and it is submitted that it has such grave disadvantages that every effort should be made to abolish it provided some efficient substitute can be found.

The first disadvantage is the time taken, which varies at different schools, but may take from fifteen to thirty hours. This represents from three to six days' work. A more serious evil, however, is the bad effect which the examination has upon the instruction. Right from the very start one is told "Now when you go up for the examination you must do this."

As one might expect the instruction at these schools goes into considerable detail and normally a very high standard of knowledge is reached by students. The standard at examinations is correspondingly high and since his performance at the course is judged almost entirely by his success or otherwise at these examinations the student is led to pay an absolutely disproportionate attention to details and to endeavour to reproduce the instruction in the exact form in which he received it himself. To a certain extent this is encouraged by the examiners because it greatly simplifies the task of marking. When one is dealing with thirty or forty students, at high pressure, it is obviously easier to detect flaws in an absolutely uniform method of instruction than it is to form a balanced opinion upon a variety of styles of imparting knowledge.

It is contended that one essential of good instruction is individuality, not of doctrine but of method. Individuals vary and two separate instructors may produce equally good results by widely differing methods. Another point is that the instructional style has to be adapted to meet the requirements of the person under instruction who may be a raw recruit or an officer being refreshed. An absolutely uniform style deadens initiative and results in a parrot-like method of instruction as opposed to a real understanding of the subject. It may be objected that the school merely gives an ideal and leaves the student to adapt it to his own requirements when he gets back to his unit. Theoretically this is sound and probably most British officers are able to do so. With the Indian N.-C. O., at any rate, it is a very different story.

Each sub-head of training has the examination as its culminating point and throughout his study of a particular subject the student is influenced by the examination and by the peculiar type of knowledge required for it. With the less intelligent the influence amounts to an obsession. Again after the examination the subject is dropped for all practical purposes so that the vivid impression which the student takes away to his unit is of his examination knowledge.

The writer has found, after experience of a number of N.-C. O.'s returned from schools, that, provided they are allowed to teach on exactly the same lines and in precisely the same detail as they themselves were taught, they get on very well. Unfortunately in active battalions this is very rarely necessary, a more compressed form being required. And this is where they fail. They seem quite unable to differentiate between the essential and the non-essential. And this is not surprising when one considers that in their eyes, distorted by the thought of the examination, the most trivial detail ranks equal in importance with something really vital. Two examples, both true, may serve to illustrate this.

An instructor, teaching recruits by the question and answer method, was heard not only asking the question but also providing the answer and then making his class repeat it after him.

The writer also found, on looking through the note book of a student just back from a school, a sequence of no less than eighty questions and answers faithfully copied out.

And what is the remedy? Indian Army Orders provide the key. Take the results of any course as published therein and without going into exact statistics it will be found that never more than about ten per cent. achieve a "D", usually less. Failures, of course, are not published but they average perhaps five per cent. That is to say, eighty-five per cent. regularly qualify. Courses vary in length at the various schools, but six weeks is probably a minimum for a qualifying as opposed to a refresher course. Officer instructors are on a scale of one to not more than forty students. It seems reasonable to suppose that, provided that the officer instructors keep a close watch on students on all parades, they should be able to tell by the end of the course without any examination and beyond all possible doubt that seventy-five or eighty per cent. will qualify; that is, they are not in the running for a "D" nor is there any chance of their failing. The remaining twenty to twenty-five per cent. fall into two classes, potential "Ds" and potential failures. The answer to their riddle can be found by examination.

This system was put into operation by the writer when he was himself an instructor and worked excellently. The course lasted three weeks, there were two officer instructors and between ninety and a

hundred men on each course. Each officer carried constantly with him a note book containing a nominal roll of students and made continual entries of what he saw. Every Saturday squad instructors gave a brief report on each student under them, classifying him as distinguished, qualifying or failing. These reports were merely to confirm the opinions already formed by the officers and were in no sense final. This point was very clearly understood by the instructors who at once realised that it was quite useless to endeavour to smuggle a potential failure through. By the end of the first week one had a very shrewd idea of every man's standard, by the end of the second week it was practically a certainty.

The result ? It was found that the figures given above for those it was necessary to examine were never reached. Never more than twelve men were examined to find out whether they were worthy of a " D " or, on the other hand, whether they should be failed. One morning sufficed for the work and, what is more important, the examiner having only a few men to get through was able to go more thoroughly into each case. The potential slacker is catered for by the weekly summing up. A gentle hint on Monday morning that the previous week's work was not up to sample was found to work wonders.

The benefits ? To start with, quite a considerable time is released for instruction. Much more important though is the fact that the student, freed from the nightmare of an impending examination, can get much more to the heart of the subject. It should not be thought that this article would encourage individuality to excess or advocate the abolition of any sort of sequence of training being taught. It aims rather at the overhauling of a system under which a man laboriously copies down a series of eighty questions and answers; which teaches a man so little of the true spirit of the question and answer method that he will supply not only the question but also the answer for his bewildered class. By all means teach the man the sequence of lessons, but emphasise rather the reason why, shew how one subject leads to another and how the sequence is built up and then, within the limits of each individual lesson, encourage the future instructor to develop his teaching on his own lines. Give him a model of instruction to work on but encourage him to adapt it to his own needs rather than slavishly to copy the model.

The abolition of examinations may appear revolutionary but it is contended that the only real function of the school is to teach. If they can safeguard their own standards by observing the student under the natural conditions of work rather than by submitting him to the fierce and unnatural limelight of the examination then so much the better.

It may be noticed that the above proposal does not entail any increase to the present establishments of schools. After six weeks of close personal observation on work of a specialised and limited nature, the instructor who cannot place the qualifications of a least five out of every six students is merely making a confession of inefficiency.

The system outlined above was evolved firstly, to save time, secondly, because it was seen that the instruction profited and lastly, because the officer instructors shrank from the incredible boredom of examining large numbers of men at high pressure.

If only for the last named reason it might be given a trial.

“THE KADIR CUP.”

An article on pigsticking in the Journal may seem to require some little explanation. The value of games and sports as an adjunct to military training is fully recognised, the writer claims that pigsticking is the most valuable of them all for developing soldierly qualities. That this is not universally recognised, is shown by the fact that in so many stations which used to run flourishing tent clubs before the war, pigsticking is now almost an unknown sport; mechanisation in the shape of motor-biking down the local Mall having replaced it. The excuse for this article, therefore, is propaganda.

Very few, besides those who have taken part in, or have been spectators at, the Kadir Cup, appear to have much idea of what it really is, and how it is run. A short account of its history and organisation may therefore be of interest, before describing this year's competition.

The Kadir Cup is the oldest and premier pigsticking competition. It is the great ambition of almost every hog-hunter to win it, and bears the same relation to pigsticking that the Grand National does to steeplechasing.

The actual competition is decided as follows:—Entrants are divided into heats of three or four, these being drawn for. Each heat is provided with an umpire who slips it on a fair pig and sees that there is no foul riding. It is hardly necessary to add that foul riding in the Kadir Cup is never intentional and is practically unknown, though instances of accidental fouls occasionally appear. The first man who spears and who can show blood on his spear, wins, and passes through to the second round. These winners are redrawn into heats of three which are similarly run off, and so on to the final which consists of a heat of two or three according to the original number of entries. As soon as a man has speared, the unsuccessful competitors usually joined by the umpire, go on and kill if they can, except in the case of a small boar or sow which is only pricked and let off.

The Kadir Cup was started in 1871 by Forbes, I.C.S. It has been competed for ever since, except in 1879 and 1880, during the Afghan War, and from 1915 to 1918. Although luck of course largely enters

into it, it has, except perhaps on one or two occasions, always been won by a really good man on a really good horse. One horse has won it twice under different owners; and one, the present holder, three times. Before the war, the I.C.S., gunners, and Indian Cavalry, used to supply, with the British Cavalry, most of the competitors. Now the I. C. S. have almost dropped out with the one or two well known exceptions, and only an occasional Indian Cavalryman enters.

The Kadir Cup is run in the Sherpur part of the Ganges Kadir hunted by the Meerut Tent Club. It provides on the whole, a fair specimen of the type of country hunted by the M. T. C. It is perhaps a little lighter and easier than the average, and is in most places very sound going.

It embraces most types of country.—Light and thick Kadir grass, toothbrush grass—porcupine grass—Jhow, poached-egg and nullahs and some excellent specimens of "Bourth Gangas."

The competition used to be held further downstream at Gurumukteser, but General Wardrop then Honorary Secretary, started using the Sherpur Country in 1901, and it has been run there ever since. The M. T. C. hold a lot of the country hunted over in the Kadir Cup on a long lease, and thus can keep up preservation and regulate the cutting and burning of the grass to some extent. This, and indeed the whole organisation of the competition, as run at present, was the work of General Wardrop, that Prince of Honorary Secretaries, who hunted the country for seven years.

A week before the actual first day of the meeting, a band of favoured members of the M. T. C., under the command of the Honorary Secretary, go out to make all preliminary arrangements.

These include preparing the various camps of which there are four:—The Main Bagh or Bachelors Camp; the Ladies Bagh; the Horse Bagh; and the Elephant Bagh. The elephants some 30 to 40 in number, have to be drilled, and the pig in all the outlying jungle and jhils beaten into the hunting country. The country has to be reconnoitred by the Honorary Secretary, and thick and unwanted patches of jungle burnt.

By Sunday night the various camps have all filled, and the draw takes place in the Main Bagh after dinner. The first round is run off on Monday, the second on Tuesday, and the Semi-finals, Final, and Hog-hunters Cup races on Wednesday.

The actual beating is done as follows :—First comes a line of 150 coolies, then about fifty to seventy-five yards behind are the elephants, carrying competitors not riding at the moment, and spectators. The cooly line is controlled by the two shikaries on camels and the Honorary Secretary who is in command of the whole. The elephant line is controlled by the Field-Master who is on a howdah elephant just ahead of the mainline. Heats and winners are notified to spectators by signals run up from the “Flag Elephant.” There are usually five heats riding, three in front of the line of coolies and two right and left rear of the line of elephants to deal with any pig that breaks back.

As soon as a pig is put up, the heat nearest it is taken up to it by the umpire, and if rideable, he sees they are together and slips them with the command “ride.”

“THE KADIR CUP 1927.”

This year the “Main Bagh” during the “Preliminary Week” was filled with strangers. There were only two who had been to a preliminary week or Kadir Cup before, but luckily one of them was Colonel Paynter and his vast experience was of great value. Benson, R. A., the Honorary Secretary, quite a new-comer to the country and never having seen a Kadir Cup before, was very severely tested. In addition to the usual worries and heavy work of running the meeting, he had to produce pig to deal with a record number of entries since the war, and make the *bundabust* for a visit from H. E. the Viceroy and Lady Irwin, and Sir William Marris, Governor of the U. P. He must be given credit for a most excellent meeting, which the most experienced of Honorary Secretaries could not have bettered.

The preliminary week passed all too quickly, and provided some very good sport, though snipe-shooting from an elephant, was too difficult for most of us. Krishni and Gajraula Jhils were full of pigs, amongst them some enormous ones. Many of these, driven out several times by the elephants and shrewdly peppered behind to help them on their way, undoubtedly lay up in the Kadir and were met with during the meeting.

There were originally 96 entries, but only 81 eventually started. These were drawn in 27 heats, which meant having a final of three for the first time since the war.

The line started early on Monday just before 8 a. m. and up to lunch time a really magnificent show of pig allowed sixteen heats to be run off. There were in addition a large number of abortive runs in which a few very fine hog were lost, owing, in some cases, to indifferent hunting in quite fair country.

The Viceroy rode behind several heats and was able to see a large number of the runs, which he appeared to enjoy immensely.

There were several good tosses including the one heat all down together in the bottom of a nullah. Three horses were cut, one badly, Head's "Placid Joe" which had just won its heat. One horse unfortunately was killed, a broken back the result of a fall in a nullah.

Just before lunch a small patch of toothbrush grass in the middle of some burnt maidan, appeared to have been adopted as a sort of club for senior hog. No less than five heats were run off on really good boar beaten out of this, and at least 3 more got off unhunted. After lunch sport was slower but six more heats were run off and again several pig were lost owing to indifferent hunting.

The second day saw eleven heats run off, and three second round heats left over for the final day. Pig were rather scarce at the start, but about 4-30 p. m. near Sherpur, the line ran into those beaten out of Krishni Jhil, and pig got up like snipe in every direction. Unfortunately owing to this the heats could not all be run off, as they could not be put on the line fast enough to deal with the supply of pig.

There were one or two very good heats, including one contested by the winner, Scott-Cockburn on "Carclew" and Catto, last year's winner on "Jack." Absolutely level throughout, and taking every jink in perfect style, it was an object lesson to all young pigstickers.

One heat complete with umpire bit the dust whilst the pig trotted gleefully back to Krishni Jhil. Another heat saw two members upside down in a nullah, and the third stopped the far side by a stub through the foot into the joint, from which a good horse never recovered.

The final saw another huge collection of pig gathered together in one patch of grass. The remaining second round heats and the semi-finals were run off by 10-30 a. m., and some really magnificent old boar got off unhunted. Two sportsmen found "Bourth Gangas"

to fall into, one spending the rest of the day retrieving his horse from Krishni Jhil.

This great display of pig however finished before the final heat was run off, and it was 5 a. m., before a suitable pig was found to decide the winner.

Scott-Cockburn, the winner, has now won three times on "Carclew," a record never likely to be beaten. He seems to have reduced the element of luck by his own skill and the brilliancy of his horse to about 5 per cent. instead of the normal 50 per cent. which is the usual element. There can have been few, if any, better men after a pig than he, and it is always the greatest pleasure either to watch him hunt or to hunt with him or compete against him.

On the whole the country was in first-class condition. There seemed to be more grief than usual and also more pig lost which should not have been.

The only complaint about the meeting was the small number of boar killed in proportion to the numbers hunted. It has always been the practice for unsuccessful members of a heat to go on and kill if possible and this custom, which after all is only one of sportsmanship, should above all be kept up.

SEMI-FINALS.

Heat No. 1.

Captain Scott-Cockburn, 4th Hussars .. Carclew (Spear).

Captain J. Selby, R. A. Bailiff.

Captain J. A. Herbert, Royal Horse

Guards — — — Snapshot.

Umpire :—

A fast run on a 28 inch boar. Herbert and Selby on but Scott-Cockburn on at first jink and stayed there.

Heat No. 2.

Lieut-Col. Paynter, R. H. A. .. Rasputin (Spear).

Captain H. N. Head, 4th Hussars .. Cis.

Mr. P. Brocklehurst, Royal Scots Greys .. Calvert.

Umpire :—

A fine boar. Head on first but Paynter got in and speared.

Heat No. 3.

Captain Scott-Cockburn, 4th Hussars	..Rushlight.
Captain Vaughan-Hughes, R.A.	..Mah Jongh.
Mr. Price, R. A.	..Sand Grouse (Spear).

Umpire:—Major Macfarlane.

Slipped on a very small sow. Lost for a moment in long grass, but picked up by Vaughan-Hughes. Ran across maidan to nullah with deep water, whole heat on his tail. Pig swam across, Scott-Cockburn swimming after it, but failed to catch up. Price and Vaughan-Hughes going round waited for Scott-Cockburn and got away again. Scott-Cockburn fell and pig went round and round in light grass like a hare. Pig re-swam nullah. Price got round. Vaughan-Hughes fell in deep hole. Price waited but then got on and speared. A very long and gruelling hunt.

FINAL.

Lieutenant-Colonel W. P. Paynter, R.H.A. Rasputin.	
Mr. C. F. Price, R. A.	..Sand Grouse.
Captain Scott-Cockburn, 4th Hussars	..Carclew (Spear).

Umpire:—Captain Hugo.

On line from 11 a. m. to 5-30 p. m. Eventually 28 inch boar was found. Scott-Cockburn's pig all through. Paynter speared immediately after.

THE CONTROL OF A MECHANIZED FORCE.

STAFF DUTIES AND SIGNALS.

By MAJOR H. I. ALLEN, D.S.O.

I.—*The Problem.*

There are many difficulties to be overcome before the ideal mechanized force is evolved. Doubtless many more will be discovered this year during the trials, which it is understood are to form part of the collective training at Home. The object of this paper is to examine a few of the problems in connection with the staff duties and signal communications in a mechanized force.

Of the many rôles which might fall to the lot of such a force, it is proposed to consider one which, more clearly than others, will bring out the difficulties involved and which can reasonably be called a normal rôle.

Let it be assumed then that the force is composed of —

- 1 Battalion, Royal Tank Corps.
- 1 Armoured Car Company, Royal Tank Corps.
- 1 Field Brigade, Royal Artillery.
- 1 Light Brigade, Royal Artillery.
- 1 A. A. Battery, R. A.
- 1 Field Company, R. E.
- 1 Signal Section.
- 1 Machine Gun Unit.
- 1 Army Co-operation Squadron, R. A. F.

that it forms part of a corps of two infantry divisions and that its rôle is to advance, capture and hold an important position until the arrival of the leading division of the corps. Opposition is expected; the Air Forces of both sides are approximately equal. The problems will be still more apparent if we assume that the enemy is also expected to employ a mechanized force. Such is the background of the picture, further detail is not necessary as the situation is to be considered in general terms only.

The control of a force is the process of translating the commander's plan into action. Control may be exercised by—

- (a) A conference at which the commander explains his plan.

(b) The issue of operation orders and special instructions, through signals.

(c) Action by the staff to see that the plan is carried out smoothly.

The course of subsequent control is dependent on enemy action, on information received as a result of reconnaissance, on orders and information received from higher authority. It is carried out by the issue of orders through signals or by telephone conversations and personal visits which are confirmed by written orders.

To examine the difficulties of control in a mechanized force it is proposed to compare certain aspects of Staff Duties and Signals in an infantry division with those of a mechanized force of the type described above. A plan to be successful must be understood by all the elements of the force, and its development throughout the course of operations is dependent on perfect control and co-operation. Signals therefore are the complement of Staff Duties, this is a point which is not always sufficiently realised. After comparing the two types of forces a few suggestions are offered which may help towards a solution.

II.—*Staff Duties.*

An infantry division, unopposed during its advance, will average $2\frac{1}{2}$ miles an hour. The G. O. C. and his staff will normally occupy a temporary headquarters and will move to a pre-arranged advanced headquarters once, or at the most twice, during the day's march. They will move by car, always having the great advantage of the speed factor to carry out their move. This all-important speed factor also allows the G. O. C. to go well forward if necessary and to get the situation first hand from the advanced guard commander. In other words he has "the legs of" his force and with the help of his staff and signals he can control it.

The advance can conveniently be divided into three phases—

(a) The approach march, unopposed.

(b) Preliminary contact which slows down the rate of the advance.

(c) Definite strong opposition and a staged attack.

It is often said that during the approach march—(a) above—a commander wants little in the way of communication. He certainly cannot have an elaborate system or his signal resources will be exhausted before battle. What he chiefly wants is information from air and ground reconnaissance.

By fixing his headquarters and publishing their locality in operation orders every one knows where to find him and the signal plan can be developed accordingly ; control is simplified. In phase (b) cable on the Main Artery will certainly be laid if it has not already been done by Corps Signals during phase (a). As contact with the enemy increases so the commander quickens his methods of control over the force. When phase (c) is reached the signal plan is developed to its maximum degree.

Now turn to the situation in the mechanized force.

The head of the main body is to pass the starting point, say, at 06 30 hours by which time the armoured car reconnaissance details have had $1\frac{1}{2}$ hours of daylight and are anything up to 40 miles ahead. By 08 30 hours the head of the main body has been timed to reach a certain bound 16 miles from the starting point. One good metalled road and one second-class road are available for the main body, and the commander has decided to use both. Each road provides moderately good cover from air observation. It is anticipated that the enemy may also be employing a mechanized force. The hostile commander is well-known as a bold tactician, by a skilful use of his mechanized weapons he can both from ground and air threaten the normal security of the main body on the march.

What does the outline of this picture convey in comparison with the infantry division which by 08 30 hours would have advanced 5 miles only ?

One's first instinct is to unfold the map and study a wider field of operations. Things are literally moving. Has the enemy changed his dispositions, has he pushed out a mechanized force 25 miles under cover of darkness ? Is there any threat to our flanks ? The result of the dawn air reconnaissance will be anxiously awaited. One feels that the air reconnaissance must be more detailed and intensive, the area of reconnaissance must be enlarged. Should there be any vital information or any change of dispositions to be conveyed to the advanced guard or unit commanders it must reach them without

delay or its value may become useless. Each quarter of an hour **that** slips by sees the force rumbling 2 miles further on.

Increased mobility on both sides indicates the possibility of a more rapid change of the situation, it calls for greater speed in **staff** duties and a quicker dissemination of information and orders.

Now glance at the control which is necessary for the command of this force.

Can it be obtained by the normal method of headquarters moving by bounds? The commander has no longer got "the legs of" his force to the necessary extent. He is not going to be content to sit behind and let his command disappear "into the blue" but this is what will happen if he really establishes his headquarters in one place even for three hours. In three hours the force may have advanced 24 miles and while the commander and his staff are "bounding" after it in cars it may well have covered a total of 30 miles. An infantry column on a first-class road with good march discipline will allow the passage of cars without much difficulty. To overtake a mechanized column which is averaging 8 miles an hour and putting up clouds of dust will be no easy, rapid or pleasant task. The time taken over this longer and slower bound will be so much time wasted, until the day comes when the columns move comfortably across country and leave the roads free for control purposes.

What does this picture present? It points throughout to loss of control. To command this quick-moving, hard-hitting machine, which may be opposed by something similar, the situation calls for accurate reconnaissance, prompt reports, quick-thinking, rapid decisions and a speeding-up of control.

What is the solution? Are the headquarters of the force to be mobile, keeping constantly on the move at the head of the main body, with the advanced guard, or is the commander and his staff going to bound by air?

Before discussing the solution let us glance at the problem from the signal aspect.

III.—*Signals.*

Signals are constantly striving to organize a system which will give them "the legs of" the force, so that they can cope with a modern division and attached troops on the move and keep a firm

grip on the control of the whole **machinery**. A division advancing on **two** roads and in considerable depth, with an advanced guard in **front** and ancillary echelons in rear, presents a sufficiently difficult **problem** with present day equipment.

By means of mobile offices, wireless in lorries, 6 horse cable wagons, motor cyclist despatch riders and reserve arrangements in light lorries to move personnel and equipment in an emergency, signals endeavour to maintain that superior mobility which will give an adequate degree of control over the force. Even so it is necessary to concentrate resources on one Main Artery of communication, always bearing in mind the principle of economy of force, so that signals will be able to meet battle requirements. To keep communication with columns which are advancing parallel to the Main Artery, or making a flanking movement or acting independently, reliance generally has to be placed on wireless and motor cyclist despatch riders, provided that no permanent line system already exists.

At present, communication between co-operating air-craft and formation headquarters is carried out by—

- (a) Message dropping at formation headquarters, the locality of which (note this particularly) is either known to the pilot before hand or marked by a ground indicator.
- (b) Message-picking up apparatus.
- (c) Radio-telephony between the aeroplane and, normally, one R. A. F. R/T. tender per division. This gives a two-way service with a range of about five miles only.
- (d) W/T from air to ground, a one-way service for R. A. purposes.
- (e) Other less important methods.

Wireless for tank units is still in the experimental stage and armoured car units have as yet no wireless of their own.

* * * * *

Now turn to the Signal view of a mechanized force and glance at the Staff-Signal problem.

There is one point which is abundantly clear from the outset ;—namely, that if no permanent line—telegraph or telephone system exists, neither corps nor divisional signals will be able to lay cable.]

along a Main Artery for the use of the mechanized column. The pace of cable laying is not entirely dependent on the pace of the cable vehicle. A mechanized cable section may be produced, but the speed of laying depends also on the work of the linemen who lay the cable.

A normal estimate of the relative value of signal communications may be written down in the following order of priority :—

- (a) Telegraph and telephone.
- (b) Motor cyclist despatch rider.
- (c) Wireless, as a stand-by, and for special purposes.
- (d) Other means.

The situation therefore which confronts both staffs and signals is that their best methods of communication, namely—(a) have disappeared. This applies only to the period of rapid movement. As soon as the attack is staged cable will again become the backbone of signal communications, not necessarily for the whole force but certainly for artillery, machine-guns and reserves. A tank attack once launched will be more or less committed until a satisfactory wireless system of control is forthcoming; this means communication within the tank unit, between it and the Force Commander, between it and co-operating aircraft.

At this stage let me briefly summarise the situation :—

The commander and staff of the mechanized force cannot afford to occupy successive headquarters and move by long bounds. They cannot expect to be in cable communication either with portions of their own force or with the Higher Command unless a permanent system exists. There can be no rapid system of message-dropping at fixed points so long as the headquarters are moving with the column. Wireless and motor cyclist despatch riders are the available means of signal communication.

Mechanized warfare demands that the earliest information must be received from air and ground reconnaissance; if the situation is to be known at force headquarters. Greater speed is necessary in staff duties, and a corresponding increase in the speed of signal traffic, failing which the commander cannot control his force.

Staffs already work at top pressure and a higher standard of efficiency can only be obtained by constant practice. Signals will be called upon to carry out a more difficult task under a severe handicap.

There is the problem, what is the solution?

IV.—Some Suggestions.

The lay mind will quite naturally observe that the tactical handling of a mechanized force is rapidly approaching naval conditions, therefore why not work the command system by wireless? It must be remembered that a ship is a self-contained fighting machine with its immediate fighting and administrative services on board. It refills, refits, evacuates, etc., after battle. Up to a point however, the layman is on the right track and he has put his finger on the weak spot. Wireless in a mechanized force has got to play a more prominent part in signal communication, it has got to become quicker, more reliable and more secret.

A sound solution can only be reached in time by trial and the application of science and common sense to the lessons learnt during training. The march of science may be extraordinarily rapid in the commercial world under peace conditions, but it seems to be no easy task to adopt it to military problems under field conditions; moreover there is no guarantee when we shall reach the rapid, secret, fool-proof, system of W/T or R/T control.

We are living in a semi-mechanical age in the Army and we hold in our hands a wireless weapon the potentialities of which are hidden from view, though we look towards them for the solution of many of our difficulties. The question is, which will be first in the field, the mechanized force or its necessary complement, the satisfactory wireless system?

Wireless, however, is not the only factor and in the meantime we can make a start and think out other possible ways and means of helping towards the solution.

The following points are suggested:—

- (a) It seems that the commander of a mechanized force must move with it; he will want therefore a mechanized office and headquarter vehicles for himself and his staff. With him will move a mechanized signal detachment, including signal office, W/T stations, R. A. F. radio tender and motor cyclist despatch riders. If the latter can be carried in a lorry and "dropped off" when required so much the better for their staying power and fitness for duty. To prevent delay the next two for duty might be ready

on the road. Something similar in the way of mobile headquarter vehicles must be attached to the advanced guard and any other independent column commander. A relatively large number of motor cyclist despatch riders will be required.

- (b) Staffs must study, more than ever, brevity and clearness of expression. Against this is the difficulty of confining to a few words the details of an urgent situation affecting a force of several arms.
- (c) A well thought out system of liaison officers, provided with rapid means of transport, will form an excellent method of control between force, unit and R. A. F. headquarters. It will also add the great advantage of the personal factor and the verbal expression of the commander's plan.
- (d) The co-ordination of the movement of the various echelons of the force by timing them to reach certain points seems more than ever necessary. A brief W/T signal to report arrival would give the commander a clearer picture of the distribution of his force.
- (e) A code W/T signal to assemble C. O's. at a certain map reference, using the protractor method, would be valuable. On occasions some of them might well travel with the force commander and rejoin their units as the situation develops.
- (f) A code W/T signal between armoured cars and force headquarters to give negative information might be useful. The signal could incidentally be received by other echelons of the force.
- (g) If the commander is constantly moving, we must find an answer to the airman's difficulty in dropping messages at force headquarters. It is suggested that one of the signal vehicles moving with headquarters should have some form of "ground indicator" on the roof of the vehicle (which sounds rather a confusion of terms). This "roof indicator" must be made collapsible, to be exposed when wanted. When the headquarters are halted, all vehicles should be concealed and the ordinary ground indicator could be brought into use if required. The pilot would undoubtedly

find this method more difficult than the present system of fixed headquarters, the position of which he knows before going up, but on the other hand, he would have some idea of the order of march of headquarters in the column. As an alternative, one of the signal vehicles with each echelon might be fitted with an electric lamp which could indicate to aircraft the position of headquarters. The comparative efficiency of these two methods, under the conditions of visibility on the march and during action will want trial. The fact of the lamp being operated from a vehicle would overcome the well known difficulties of the carriage of accumulators. Incidentally mechanization will solve many problems in the carriage of equipment which hitherto have been complicated by the separation of loads on men and animals.

- (h) To afford protection against air attack a certain degree of dispersion on a wide front, or in depth, will be necessary. The effect of this will be to increase the difficulty of control and the airman may find that he is asked to drop his reports at certain unit headquarters as well as at force headquarters. This will certainly occupy valuable flying time, but the information is of no use unless it reaches the right people. An increase in the number of R. A. F. R/T tenders would help, and a relative increase in the strength of the R. A. F. allotted to a mechanized force.
- (i) The movement of force headquarters by aeroplane may be looking rather far ahead and is not likely to find favour until we have machines which can land and take the air from a confined space, and until the R/T. system is perfected so that if necessary the commander himself can use it.
- (j) There will certainly be objections to force headquarters being continually on the move. On poor roads it will be a great strain and trial of patience to carry out staff duties under such conditions. If force headquarters were to move between the advanced guard and the main body they could halt for brief intervals and by combining such halts with the recognised halts for the whole column,

the staff would get some opportunity to work under quiet conditions as soon as contact with the enemy is made and the pace of movement reduced, headquarter halts could be of longer duration.

It seems that any form of routine halts for a mechanized force at fixed periods will give too great an opportunity to hostile airmen, who would soon get to know the best time to look for the halting and closing up of the mechanized column. Since concealment from air observation is so important, halts must be arranged according to the tactical situation and the cover available.

* * * * *

The solution to this problem of control seems to lie in three main directions.

Firstly.—The scientific progress of wireless and its practical adaption to military needs.

Secondly.—Careful organization and the exercise of ingenuity in staff duties.

Thirdly.—Training.

MILITARY NOTES.

FRANCE.

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The following article appeared anonymously in the "Revue des Deux Mondes" for 1st November, 1926.

THE ARMY WE REQUIRE.

The Basis of an Organization.

On the 1st January, 1921, the "Revue" published an article entitled "The Army We Require." Now that the draft plans of the organization of this army are being drawn up, and when the plans of national defence must take shape to meet any possible eventualities which may arise on our frontiers, we think it may be of interest to resume our study.

On the morrow of a war which has altered our frontier and greatly modified the conditions of the struggle of nations we are glad to believe, with the present day policy of minimum sacrifices, that the country is in a position to defend itself, since it has an army, and we take the efficiency of this army for granted, once its recruiting and the distribution of the contingents of men have been settled.

The system of defence of a country like France, which always has powerful neighbours, is in reality more complex. It is necessary to complete it with many other measures equally indispensable, and if, in this system, the above two conditions—the existence of an army and its proper organization—are essential, they are far from being all-sufficing. In order to hope that the army, on the outbreak of war, may be ready to oppose the enemy's depredations in the frontier regions, and to hope that it may subsequently concentrate in sufficient strength to stop the invasion of the enemy's armed masses, a barrier is necessary. The frontier must be fortified, especially where it is not marked by a natural obstacle. This involves works which require a long time to construct, but which it is urgent to carry out. In their execution the degree of proximity to the danger must be taken into account, as also its nature. Without taking into account gas attacks, the populations of the frontier regions are exposed, from the first days of the conflict not only to the incursions of the enemy, but also to aeroplane bombardments, which an imposing commercial aviation

renders formidable and even alarming. Therefore, besides fortification, it is necessary to include special precautions to guard against this danger.

Finally, whatever part of the defensive system is under consideration—fortifications, anti-aircraft defence, covering forces or field army—its efficiency is solely dependent on the armament allotted to it; hence-forward, this indispensable armament must be taken carefully into consideration in order to fix the constitution of the force to be organized.

We will consider first the organization of the army, on the basis of what it should be on the outbreak of a war in Europe, in order to ascertain what must be maintained and prepared in peace time.

(i) The Army on a War Footing.

Up to the present, when it was a question of organizing armies, we were principally occupied in recruiting men, instructing them, training them professionally—that is to say, physically and morally—providing them with officers and N.-C. O's., then sending them into the field. We remained faithful to these traditions, which were adequate in their day: "At the sound of the alarm gun, France calls her children....." Thus it was at Valmy. It is no longer so to-day. We must above all avoid formulæ which grow obsolete through the evolution of civilization. With time what truth is contained in them is so reduced as to become in so many cases merely paradoxical.

The volunteers of 1792 armed themselves with lances, pikes, rifles, scythes, and any weapons which they could get, and above all, with a very definite idea, a resolute will and stern energy. They rushed to the frontier and saved the country at Valmy. "From this place and this hour, a new era dawned in the history of the world." On the hill of Valmy, to the cry of "Vive la nation," inspired with a general élan and enlivened passion, the soldiers of France shattered the attempts of the automatons of Brunswick, overthrew their rigid formations, and their unimpeachable but obsolete tactics. Further, they drove them back beyond the Rhine. The will of a people had come into action interpreted by the spirit of its soldiers; the strength of their feeling, supported by the entire resources of the country, led to victory. These resources to-day comprise both science and industry, and these must be taken into consideration.

In the days of primitive ballistics, rudimentary firearms, lacking accuracy, range or rapidity of fire, the *arme blanche* retained all its prestige; the combatants could see each other and fought hand to hand; the normal worth of the soldier was the preponderant element in the struggle. Armament counted very little. It could not, however, be entirely overlooked.

Napoleon, better than anyone, understood the transformation effected in war by the French Revolution, the possibilities opened by the *moral* worth of his soldiers. Better than anyone during the period, he worked up the "soldier spirit" which it had prepared. On the field of battle, on the other hand, he carried out the art of utilizing the *number* of these soldiers by appearing with superior forces at the point at which he meant to strike. But if he prepared the decisive phase of the battle he wished to produce with these effectives, by employing hitherto unheard of masses of artillery, it was because he also understood how to demand from *matériel*, all the effort of which it was capable; that is a preparation and a culmination of effect which he considered indispensable for an intelligently worked out decision.

After Napoleon, science and metallurgy being still in their infancy, were unable for a long time to bring about any great transformation in armament, or to make obvious the errors committed in misunderstanding the conceptions of the master. The moral worth and the number of soldiers remained, for more than half a century, the preponderating factors of victory. Not without reason, during the same period, the country, in order to assure its defence, called up men, organized them in units and trained them as combatants.

This fundamental but abstract idea should nevertheless have ceased from 1860, when science and industry began to place at the disposal of the military and conquering power—Prussia—an armament which was continually being improved and increased. Evolution in research, production and development of *matériel* power in our armies was, moreover, always very slow, and allowed our neighbours to steal a march on us with rifles, and breech-loading guns, as later with heavy artillery and aviation, without mentioning the proportionate increase in the number of these weapons allotted to a unit.

And even in 1913, when the horizon darkened and when, in face of the increasing German menace France prepared for the struggle,

strictly faithful to the formula of her fore-fathers of 1792, she increased her effectives with the colours by reintroducing the 3 years' service; and that, at the cost of what sacrifices and expenditure! She also increased, by an intensive military education, the *morale* and professional efficiency of the combatants. But the deficiencies in *materiel*, machine guns, field artillery, heavy aviation and means of intercommunication could not be so rapidly replenished. Further, the number of guns in any army corps was small, and the reserve divisions were incompletely armed and equipped. The principle of numbers and the moral worth of soldiers was still the first and the last word of our doctrine. The capital significance of *materiel* remained of secondary importance, and when this fact became evident, from the first days of the war, time was still needed to select the *materiel*, to manufacture it, to issue it, to organize its handling and also to understand its employment.

Thus in 1914 we entered the struggle inadequately armed, equipped and supplied, but with *morale* superior to that of 1792. In spite of all the courage of our soldiers, if we checked the invasion, we did not gain victory and the enemy maintained his position on a large portion of our territory. It took us nearly 4 years to begin to conquer and to reach the Rhine. Up till then the army formed a rampart for the country with its bodies. The sacrifices had been heavy, sometimes shaking the *morale* of the fighting soldier and at times baffling the Higher Command. During all this time it was necessary to manufacture, in quantities until then unheard of guns, ammunition, aeroplanes, barbed wire, gas, tanks.....in fact a formidable *materiel*, to discover new methods of attack and defence; to sum up, to organize side by side with large manufacturing centres, establishments for important and varied studies. This was the price of victory, for without this assistance, our soldiers, however brave and numerous, died powerless in face of the destructive force of *materiel*. On the other hand, the day that they also had this *materiel* at their disposal, trained by experience, they adapted their "groupements" and units to its employment, and they resumed the advance. Then trench warfare ended. It was only a new and definite proof of the impotence of the combatant who has only his courage and personal weapons against the crushing effects of *materiel* produced by science, when concentrated in a powerful armament.

Once more we will repeat, on the modern battlefields of Europe, where the so-called civilized nations meet, *materiel is the primary condition of the efficiency of the combatants, however excellent they may be. Its quality, nature and composition are the basis upon which the organization of any army must rest in order to attain victory.*

Furthermore, the preparation of this army in peace must include, under a very efficient central administration :—

- (1) Establishments both for the study and research of these *materiel* means.
- (2) Fully maintained manufacturing centres.
- (3) Such groupings of troops or units, as will be capable of maintaining and developing, in the corps of officers, the combined employment of the different *materiel*, for attack or defence ; of training soldiers for their duties in war in the employment of one or more weapons ; also capable, by the calling up of reservists, and the supply of *materiel*, of being transformed into fighting units.

An army cannot call itself ready, unless these conditions are complied with.

How is it that in our country with its reduced population, this evolution in warfare, which tends to economise manpower by a greater employment of *materiel*, is not taken into serious consideration. And how is it that those who are responsible for the preparations for National Defence, that is to say for war, do not devote part of their efforts to the question of the necessary *materiel* required and its employment under all circumstances, and of the *materiel* to be studied and manufactured when the crisis is at hand with an industry which is always limited.

Let it suffice for us to add that, taking as a basis the institutions which were functioning, in France at the beginning of November, 1918, and reducing them to a limited system, we should have the skeleton of those to be maintained in peacetime, as given under paragraphs (1), (2), (3) above.

If up till now, as we have just seen, the assembly of an increasing number of combatants, the laws dealing with the recruiting and organization of our resources in man power, have been the beginning and the end of our military organizations, henceforth *materiel*, armament and technical science will assume, among European nations,

such importance and produce such modifications in warfare, that the fundamental military laws can no longer afford to overlook them. The history of the last war provides us with important lessons on this subject. They cannot be neglected when the possibility of a conflict is visualized.

Further, at a period when neighbouring States, inspired by different principles, are endeavouring to obtain the disarmament of others, it might be fatal to rely entirely on the strength of our peacetime effectives. Perhaps it may be possible to reduce them, compensating this reduction by the organization and armament assured to them, as well as by the methodical preparation of reserve units.

In fact, in 1914, we entered the war with a magnificent army, inadequately supplied with *materiel*. We had a few machine guns and an insignificant number of heavy guns. The 75 mm. which is an excellent gun had to satisfy all requirements. Only a limited number, however, existed; the same applied to ammunition. Again the tactics of our army were equally deficient. The powerful effects of modern armament had been barely realized. Neither the employment of the *materiel* at our disposal which, as we have seen was comparatively meagre, nor protection against that of the enemy, which was far greater than ours, were understood. The result was battles with men, involving terrible casualties, too costly victories.

On the other hand, from 1917, manufacture fully assured the supply of the *materiel*, the need of which was so cruelly felt by the combatants. They had an ever-increasing number of automatic weapons (machine guns, light automatics), guns of all calibres, tanks, aeroplanes, etc. The Higher Command and the troops had learnt their employment from war experience. For us the war assumed fresh possibilities. The road to victory had been opened up.

The increase of our *materiel* is shown by the following figures:—

France entered the war in 1914 with—

Men.	Light automa- tics.	Machine guns.	Tanks.	75 mm. gun.	Heavy guns.	Aero- planes.	Cars.
2,500,000	0	2,000	0	3,900	300	200	9,000
In 1918, in order to attain victory, the following were required:—							
2,800,000	47,000	18,000	2,500	5,600	5,200	3,200	88,000
Increase 300,000	47,000	16,000	2,500	1,700	4,900	3,000	79,000

As will be seen, in proportion to a small increase in the total effectives there was a very great increase in *materiel*.

This increase affected heavy, medium and small calibre armament, the latter having become largely automatic ; further the means of observation from the air which this armament demanded, and the new means of attack which it required such as tanks. Telephonic and wireless communication *materiel* and transport also must be included. Finally, we find all the combatants provided with gas masks and followed by organizations for research and investigation of the measures to be taken for protection against new gases. The struggle by fire had in fact been duplicated by chemical warfare calling for careful attention ; a new weapon and a new technique in its use had been added to those already required by the struggle in the air and on the ground.

Thus recent past history leads to certain definite conclusions as regards European war.

1. An army cannot to-day take the field with impunity without this *materiel*, very important both as regards its quantity and its variety, and also without an ample supply of ammunition upon which its efficiency depends.

2. The power of the army increases with the quantity of such *materiel* provided, however, that the proportionate allotment of weapons of all natures is well thought out.

The fact is, fire-power has assumed in battle an absolute preponderance at all ranges. It is this fire-power which first of all caused the development of the number of guns and automatic weapons, then the creation of tanks. Finally, it has decided the tactics to be adopted.

Another consequence is that cavalry can only fight dismounted in a modern battle, with firearms, guns, machine guns or carbines ; infantry can only take part if well supported by artillery ; engineers become mixed up in all fighting operations. There is no arm capable of carrying out an action independently. Only the co-operation of all arms can produce results. Hence forward the division which combines them all must be taken as the basis for the organization of an army. The composition of the division itself must be based on the nature, the number, and the ratio and grouping of the

weapons of all calibres, as well as on the machines, and the means of observation and communication recognized as necessary.

The primary object of the units of which this division is formed is to ensure the handling and smooth working of this varied *materiel*. The aim of the Higher Command of this formation, which is composed of batches of weapons grouped by calibres or according to their range of action, is to ensure the co-ordinated effort of these different batches.

(ii) *The Division on a war footing.*

To determine the quantity and the allotment of armament let us refer to the experience of the war ; from this we shall obtain a basis for the organization of a division and thus the distribution in manpower resources.

The armament to be allotted to the division was and still is what it requires to carry out its allotted task ; to conduct an action from start to finish (except that special reinforcements will be allotted to a division if it is given a particularly heavy task).

What is this armament as regards nature and quantity ?

Troops cannot advance on an enemy position and seize it by close-range action, unless they have an armament capable of destroying the obstacles on the way, and of dominating, or at least reducing the enemy's fire. The division starts by producing its powerful effects at long range with its guns, then continues at close range with its automatic weapons and finally maintains its effect up to the last minute by protected and armoured weapons.

When a division comes into action, it is its 75 mm. artillery which opens the way, but against certain stronger obstacles it will be obliged to call in heavy artillery (howitzers). To these actions of our artillery the enemy promptly replies with his field artillery, and then with his long range guns, which necessitates our heavy long range artillery coming into line, without which the advance would be checked.

But, in this long range struggle, the effect of our artillery, whether field guns, heavy howitzers or long range guns, depends upon the accuracy with which they are brought to bear, hence the necessity of air observation, which verifies the results obtained and reports them. The further advance of the troops depends on this. We must add that observation aircraft cannot maintain themselves in the air, unless protected by fighting aircraft.

Finally, all these organizations, troops in front line, artillery of different calibres, observation aircraft, fighting aircraft, whose task is to fight or to watch the enemy, can only operate and still more be directed or kept informed, if they are in communication with each other, and as also with the divisional command and certain of its echelons; hence the necessity of a strong system of inter-communication radiating from the division.

After having sketched the different requirements of the division and having deduced the variety of its armament, we shall have an idea of the quantity required from the successive lessons furnished by the war, as shown by statistics.

The following tables show the increases which were recognized as necessary and which were effected in the *matériel* of the division during the campaign, as well as the improvised transformations which took place in its composition:—

Successive Transformation of the Division during the war.

Date.	....	INFANTRY.					ARTILLERY.					RATIO.		
		Rifles.	Light automatics.	M. Gs.	Close support weapons.	Tanks.	75 mm.	Heavy howitzers.	Heavy guns.	Aircraft.	Balloons.	Per 100 men.		
												Auto-matic weapons.	Guns.	
1914 Aug.	Organic Division ..	9,600	..	24	..	..	36 (60)	..	..	..	16,000 (18,000)	0.15	0.22 (0.33)	15 25
1916 2nd half.	..	..	216	24	72	9	36 (48)	..	(8)	..	17,000 (18,000)	1.70	0.21 (0.31)	1.24 1.94
1917 2nd half.	..	..	324	288	108	27	36	35 (56)	12	(12)	13,200 (15,000)	3.28	0.36 (0.44)	1.11 1.36
31st July.	Flanders, average per Inf. Division	..	324	432	108	27	120	48 (60)	186	..	28,000	1.54	1.09	7.15
23rd Oct.	Malmaison, per Inf. Division.	..	324	432	108	27	104	306	164	..	26,000	1.66	1.03	6.20
1918 2nd half.	Organic Division ..	..	405	432	108	18	36	268	12	(12)	13,000 (13,600)	3.95	0.37 (0.44)	9.66 (1.16)
	Division in attack ..	..	405	513	108	18	120	48 (60)	60	56	27,000	1.90	0.87	4.90
	Division in defence	..	405	513	132	18	48	236	24	28	18,000	2.98	0.55	1.86
			537					100						

It will be noted that in this table—

(1) The figures of automatic weapons only include the weapons normally employed in infantry action, excluding anti-aircraft machine guns.

(2) The figures for the battles of 1917 and 1918 show the average per division of the total of guns engaged (artillery allotted permanently to the division and corps, general reserve of artillery). To enable comparison to be made with figures showing the establishment of higher formations, the figures showing the divisional establishment are accompanied by figures in brackets showing the total obtained by adding to the number of guns and the effectives in the divisional establishment, half of the corresponding number of guns and effectives of the corps artillery establishment.

From an examination of this table we can note the following points:—

The ratio of small calibre automatic weapons increased rapidly during the war. It rose from 0·15 per 100 men, to about 2 per 100 in attack and 3 per 100 in defence.

The guns rose from 0·22 per 100 men to 0·87 per 100 in attack and 0·55 per 100 in defence.

Finally, the ratio of guns to automatic weapons rose in 1918, per 10 automatic weapons of small calibre, to 4·60 guns in attack and 1·86 in defence.

These figures enable us to estimate the number of automatic weapons and guns which are indispensable for a given number of combatants.

Thus, if for instance, we visualize a division with a total strength of 20,000 men, it should be equipped according to the ratio applied in the war—

(a) In attack:

with	380	automatic weapons.
	180	guns.
	35	tanks.
	45	æroplanes.
	2	balloons.

(b) In defence:

with	600	automatic weapons.
	180	guns.
	10	æroplanes.
	1	balloon.

We thus arrive at the following composition for the division, then of the army corps :—

(a) Division in attack—

INFANTRY.				ARTILLERY.			AIR SERVICE.		Various.
Light auto-matics.	M.Gs.	Close support weapons	Tanks.	75 mm.	Heavy howitzers.	Heavy guns.	Air-craft.	Bal-loons.	
304	76	12	35	96	48	36	45	2	..
380					180				
7,600 men.				9,800 men.			900 men.		3,400 men.
Total 21,700 men.									

(b) Division in defence—

450	150	12	..	48	24	36	10	1	..
600				108					
9,900 men.				6,300 men.			300 men.		2,800 men.
Total 19,300 men.									

(c) If these two divisions were amalgamated they would represent an Army Corps of incontestable power, with the figures —

754	226	24	35	144	72	72	55	3	..
980					288				
17,500 men.				16,100 men.			1,200 men.		6,200 men.
Total 41,000 men.									

(d) To give an identical composition to the two divisions in our organization, these totals of weapons and effectives could be distributed between two divisions equally with the ratio of—

304	76	12	..	48	24	..	10	1
380				72				
7,200 men.				4,300 men.			300 men.	2,700 men.
Total 14,500 men.								

Which means for the two combined —

INFANTRY.				ARTILLERY.			AIR SERVICE.		Various.
Light auto-matics.	M.Gs.	Close support weapons.	Tanks.	75 mm.	Heavy howitzers.	Heavy guns.	Air craft.	Bal-loons.	
608	152	24	..	96	48	..	20	2	..
760				144					
14,400 men.				8,600 men.			600 men.		5,400 men.
Total 29,000 men.									

To which would be added the corps troops to be allotted to one or other of the divisions according to the tactical rôle assigned to it—

76	144	..	35	48	24	72	35	1	..
220				144					
3,100 men.				7,500 men.			600 men.		4,800 men.
Total 16,000 men.									

We thus arrive at the total of an army corps at war establishment—

45,000 men.

Whatever happens, it follows from the above that first forming a division (and then an army corps) merely by grouping a certain number of regiments formed *a priori* according to old formulæ and keeping to the armament which each of them brings, will not suffice by the other method, however, we arrive at a well-considered and powerful organization for the division and the army corps, by basing the organization on the armament recognized as indispensable by war experience, and by thus deducing the number and the composition of the units of which these higher formations should be formed.

On the same principle we shall allot all the weapons of whatever nature, which operate in front line and are employed at longer ranges to the artillery ; air means of observation or fighting to the air service.

The effective of each arm in man power will thus be dependent on the number of weapons which they will be called upon to employ

The command of these effectives will also be split up and distributed according to the nature and importance of the groups (*groupements*) of *matériel* and men thus formed.

Thus we might visualize as follows the broad outline of the distribution of the units and the organization of the command in a war-time division :

1. *An Infantry Command.*

3 regiments, of 2,400 men, each comprising 3 battalions of 3 companies and a machine gun company ; a company of close support weapons.

2. *An Artillery Command.*

1-75 mm. regiment of 4 "groups."

1 heavy artillery regiment of 2 "groups."

3. *An Air Service Command.*

1 observation squadron.

1 balloon company.

4. *Units of other Arms.*

1 cavalry group.

2 companies of Sappers and Miners.

1 telegraph company, etc.

5. *Administrative Services.*

Further, the army corps to which the division is attached would have in addition as corps troops :

(1) *Infantry.*

1 battalion of heavy machine guns.

1 company of tanks.

(2) *Artillery.*

1-75 mm. regiment of 4 "groups" carried in lorries.

1 regiment of 3 "groups" of heavy howitzers.

2 regiments of 3 "groups" of heavy guns.

(3) *Air Service.*

2 observation squadrons.

1 pursuit squadron.

2 anti-aircraft artillery "groups."

1 balloon company.

(4) *Other arms.*

1 cavalry group.

2 companies of Sappers and Miners.

1 telegraph company, etc.

(5) *Administrative Services.*

(iii) *The Army on a Peace Footing.*

During the last war, France formed about 100 divisions. In a future European war, taking into consideration the power of her neighbours, this is the figure which her population would enable her to attain, and at which she should aim. There can be no question of putting all these divisions into the line at the outset, but the nation could not take the field with less than 40 divisions powerfully equipped. It is possible to obtain this, by demanding from each of our 20 military regions the immediate provision of two divisions, and the corps troops for an army corps.

One of these divisions would be kept up on a peace footing to a strength which would suffice to maintain suitable military employment and training, and to ensure quick mobilization ; the other would be a skeleton division, generally speaking attached to the first, and would mobilize by duplication of the latter.

The division maintained in peace and called upon to provide the cadres of the second and certain corps units, would comprise, in *materiel* and effectives —

INFANTRY.				ARTILLERY.			AIR SERVICES.		Various.
Light auto- matics.	M. Gs.	Close support weapons.	Tanks.	75 mm.	Heavy howit- zers.	Heavy guns.	Air craft.	Bal- loons.	
377	113	12	20	72	36	36	30	1	
490				144					
7,000 men.				6,000 men.			400 men.		1,600 men
Total 15,000 men.									

It should be noted that the *materiel* enumerated above only comprises *materiel* actually issued ; the mobilization *materiel* of the division to be duplicated, and of the army corps units, as well as the amount of ammunition required, not only to fill up stocks, but also to provide for consumption until the resumption of intensive manufacture, must also be stored in peace. The lessons of the last war have proved that its previous provision is essential.

The division on a peace footing will thus include a combination of units and an organization of command as follows:—

1. *Infantry.*

3 regiments of 2,300 men, each comprising—

3 battalions of 3 companies and 1 machine gun company, 1 heavy machine gun company, 1 company of close support weapons, and a tank company for one of the regiments.

2. *Artillery.*

1-75 mm. regiment of 4 “groups.”

1-75 mm. regiment of 2 “groups” carried in lorries.

1 heavy (howitzer) regiment of 3 “groups.”

1 heavy (guns) regiment of 3 “groups.”

3. *Air Service.*

2 observation squadrons.

1 pursuit squadron.

1 balloon company.

4. *Other Arms.*

1 cavalry group.

1 anti-aircraft artillery “group.”

2 companies of Sappers and Miners.

1 telegraph company, etc.

5. *Administrative Services.*

With these 40 first line divisions carefully and powerfully equipped, thus providing 20 army corps allotted all the necessary ammunition, supported by fortifications, we shall have the means, not to undertake an immediate general offensive, but to protect our territory from invasion until the arrival of the other divisions, drawn from Algeria and external theatres of operations, as well as the mobilization of all the resources of our regions.

We therefore foresee that France in Europe must maintain an army on a peace footing of 300,000 to 350,000 men, including a few cavalry divisions and other special formations (what neighbouring Power has no army?) The army must be raised both by

compulsory service as well as by the enlistment of regular soldiers, and further it must be laid down that the latter are allotted to units and not to administrative services.

Finally, the requirements of the colonies and protectorates must be examined separately.

Such is the basis of a recruiting law which does not wish to leave the defence of the country to the chances of improvisation.

After the effectives to be maintained, as well as their distribution and training have been laid down as stated, the necessary and adequate length of service will be fixed automatically, without the fear of unproductive burdens on the country, nor weakness for the army in the hour of conflict. The law of cadres will also become automatically established, as the results aimed at are known. The law will determine the number of officers of the active list required to maintain the division in peacetime, and enable them to ensure the duplication of units anticipated on mobilization, as well as preparation for the mobilization of further divisions.

It is only by a general plan outlined by our wartime army in Europe, and inexorably maintained, that we can produce at the hour of need, from a logically worked out peacetime army, the forces capable of answering the requirements of national defence.

On the other hand it would be dangerous and devoid of all method, to legislate on the length of military service, the cadres and effectives, the number and type of the regiments, without having taken into consideration beforehand the new conditions of war in Europe, the importance and variety of modern armament, and without having determined and established the nature and composition of an army capable of answering the requirements of such a struggle. Again, it would be dangerous to confine reorganization to grouping the remnants of institutions, often very obsolete, by adjusting them more or less haphazard. It would run the risk, by fundamental indefiniteness of imposing useless burdens on the country without giving the assurance of providing an army capable of carrying on a European war.

It is an actual fact that in modern forces effectives are not everything. *Materiel*, and above all, armament, play an important rôle. For this it is not enough to keep them in store. The troops should have this armament constantly with them, so that the soldier learns

how to handle it, the officer to employ it, the commander to direct it, to utilise it to its full power and with all its types. Military laws cannot neglect this necessity.

In any case, any legislation which deals systematically with the employment of resources in man-power without combining it with the working and employment of materiel, which is becoming more and more necessary and more and more important, would risk the formation of an army which is misleading, and would lead the country to a first effort, that of the calling up of men, without any certainty of seeing the second followed up, that is, the assured provision and the employment of the materiel, as well as the constitution of the indispensable stocks of ammunition. It would thus risk preparing for the country merely a rampart of human bodies, always doomed to sacrifices, however sanguinary and costly.

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GERMANY.

Military Activities in Germany in 1926.

GENERAL.

In the course of the year the "Reichsheer" continued the even tenor of general improvement in training, discipline and general efficiency, which has been steadily maintained since its formation. No difficulties in recruiting were experienced and the stamp of men engaged was both physically and intellectually high. As regards age of serving soldiers, statistics published at the beginning of the year showed that 68·05 per cent. of all ranks were between 20 and 27, 19·74 per cent. over 27, 11·17 per cent. between 18 and 20 and 1·04 per cent. below 18 years of age.

Manceuvres on a large scale were held for the first time this year and were generally admitted to be a great success. They were attended by the officially accredited military attaches* and by foreign visiting officers.

Army Estimates.

The army estimates for the financial year 1926-27 were produced at the new year, and roused the usual storm of criticism and opposition from the parties of the Left. They did, in fact, exceed the vote

* As yet no military attaches from England, France and Belgium are accredited

for the previous year by 17 per cent. the total demanded being M. 474,297,210 (£ 23,714,860). The organization, strength and scales of armament and equipment had not varied during the preceding year nor were innovations expected, and it was consequently very difficult for the Minister of Defence to vindicate his budget in the eyes of the parliamentary opposition. The estimates did not pass unscathed through the Reichstag, the final vote, including supplementaries voted later in the year, amounted to M. 468,248,740 (£ 23,412,437). The reduction represented by this figure is small and in no way weakens the case of those who maintain that, for an army of 100,000 men armed and equipped on a scale definitely limited by the Treaty of Versailles as regards modern engines of war, the amount spent in 1926 was inordinately large.

Manœuvres.

Training was carried out during the year on normal lines and culminated in September in manœuvres in a larger scale than has been usual in the "Reichsheer" since the war. The 1st, 4th and 6th Infantry Divisions completed their training early in September by means of divisional exercises in their own areas. Subsequently, individual units of these divisions were attached to formations taking part in the main manœuvres.

These manœuvres were divided into two parts as follows:—

Area.	Period.	Units involved.
1. Pritzwalk—Meu—Ruppin. (Western Brandenburg.)	9th to 15th September.	II and III Divisions (less one infantry regiment). 1st Infantry Regiment, 8th Cavalry Regiment, 4th Artillery Regiment, Horse and Mechanical Transport of IV Division.
2. South of Würzburg. (Bavaria and Württemberg.)	18th to 21st September.	V and VII Division complete. 17th and 18th Cavalry Regiments, 6th Artillery Regiment, 6th Signal Section, Horse and Mechanical Transport of VI Division.

The manœuvres were held under the auspices of the 1st and 2nd Group Commands respectively. Equipment such as tanks, heavy artillery and aircraft, forbidden to the army by the Treaty of Versailles, were included in the schemes and were either imagined or represented by dummies and, in the case of aircraft, by small coloured balloons.

The high standard of training and discipline of the troops were not only the subject of enthusiastic comment in the press, but were also readily acknowledged by the foreign military attaches. Situations were made as realistic as possible, and all ranks entered into the spirit of the manœuvres in an attempt to reduce artificiality to a minimum. The manœuvre area was covered by a network of telephone communications, which enabled the umpires to reproduce artillery fire with some accuracy.

As mentioned above tanks were again represented by dummies. It was generally considered that a man-propelled vehicle could not adequately represent the speed of a modern tank, and it has been suggested that, for the future, such dummies should be fitted with a light engine.

Military critics in the press mostly expressed the opinion that these manœuvres represented the zenith of the post-war training of the German Army, and that the high water-mark of efficiency had now been reached. Nevertheless, they were of the opinion that, in its present form, the Reichswehr, in spite of its admirable discipline and physical efficiency, could only succeed, in case of war, in holding the frontier for a term of days, if opposed by a modern western army.

During manœuvres the fundamental tactical principles as laid down in German manuals were clearly illustrated. In most cases the principle of envelopment (double where possible) was applied in attack, and the counter-attacks judged to have been most successful were those delivered from two sides on the "pincer" principle ("in die Zange nehmen"). The importance attached to tanks may be judged from the fact that during the tank attack on the final day of the II and III Divisional manœuvres, although 8 out of 12 were immediately put out of action, the remainder 4 were credited with a considerable degree of success against strong infantry resistance.

Re-opening of the Infantry School at Dresden.

For the last two years the Infantry School (the nearest German equivalent to the Royal Military College, Sandhurst) which, in order to avoid political contamination, had been removed from its original location in Munich after the Hitler rebellion in 1923 had been occupying temporary quarters on the training ground of Ohrdruf. Permanent quarters were meanwhile in preparation in the buildings of

the old Saxon Cadet School in Dresden. These quarters were officially opened by the President of the Reich, in his capacity as Commander-in-Chief, on 18th November, 1926.

The ceremony included a parade of the students, who were addressed by the President.

Although it created a great stir in the press and in politics generally, it produced no noticeable effect in the army itself. No changes in administration or organization were made in deference to this outcry.

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ITALY.

The Army Reform Bills of 1926 are the work of General Cavallero, the Under-Secretary of State for War. They were "tabled" in the Chamber of Deputies on 19th January, and were passed in the same Chamber by an overwhelming majority on 30th January. During the next few weeks they were subjected to close scrutiny by the Military Committee of the Senate, and were finally approved by the Senate, on 10th March.

The principal Bills, since amplified by hundreds of decrees, were seven in number, and dealt with:—

- (i) The Re-organization of the Army proper—i.e., the combatant arms, the non-combatant services and the staffs of both.
- (ii) The Promotion of Officers.
- (iii) The Legal Status of Officers of the Army, Navy and Air Force.
- (iv) The Central Administration of the Army, including civil personnel employed under its orders.
- (v) The Treatment of Disabled Ex-service Men.
- (vi) Officers' Marriage Dowries for prospective Wives.
- (vii) The Formation of a Chaplains' Department.

Of the above Bills the first is by far the most important, and it is the only one that merits special notice. But before the first Bill is dealt with in detail, it will be well to enumerate the following

points contained in the preamble of the seven Bills as laid before the Chamber of Deputies :—

- (a) Of the three fighting services the Army is the most important.
- (b) It is essential to provide for the rapid mobilization of all the resources of the State, and particularly for the rapid mobilization and assembly of the Army. In order to ensure that supplies of war material and mobilization equipment are always maintained in sufficient quantities and in good condition 30 special Mobilization Inspectorates (one for each Divisional Area) will be created.
- (c) In spite of the greatly increased power of mechanical contrivances it is still the human element, the soldier, that counts for most in war. In fact, the greater the improvement in mechanical contrivances, the higher must be the qualities of the men who are to use or to oppose them.
- (d) The period of military service will continue to be 18 months for all male citizens, excepting a small percentage who may be entirely exempt for family reasons by the Minister of War. The Minister may also dismiss from the colours a further percentage (limited to 50,000), provided :—
That they can plead family reasons similar to those of exempted men.
That they have served for not less than 6 months.
That the strength of the unit is not unduly reduced. No man, however, shall be eligible for total exemption, or for dismissal after 6 months' service, unless he has passed the prescribed courses of pre-military training with the National Militia.
- (e) One annual contingent or "class" of recruits produces a total of about 230,000 physically fit men, of whom about 30,000 may be exempt. One quarter of the remainder may also be dismissed after a reduced term of service of not less than 6 months. The minimum strength of the Army is fixed at 150,000, which figure will be adhered to in the non-training season—that is, during the winter months. During the training season (April to September) two annual classes will overlap, and the actual strength during this season will average about 325,000. The budget strength may be taken as 220,000.

2. *The Reorganization of Higher Formations and Units.*

In order to avoid interference with military training, all such portions of the Reform Bills as entailed re-distribution of troops were held in abeyance during the summer, and not given effect to until 2nd October. On that date the re-grouping of troops began: it has since been pushed on with commendable rapidity, and there is every prospect that it will be completed before the opening of the next training season.

The main changes that have so far been effected (or begun) in the principal arms, and in the grouping of higher formations from armies down to brigades, are the following:—

(a) *Re-grouping of Army Corps and Divisions.*

Under the Diaz organization the Italian Army had 9 army corps on the Continent and 1 on the Island of Sicily, each army corps averaging 3 divisions. Under the Cavallero organization this arrangement has been modified. The Sicilian (Palermo) army corps has been abolished as such, a new army corps, with headquarters at Alessandria, has been formed in its stead, and Sicily and Sardinia have been converted into separate "Island Commands." There are thus still 10 army corps, but they are all on the continent, whilst the formation of the two Island Commands provides for the local defence of the islands concerned.

The number of divisions in each army corps varies from 2 to 4, and is as follows:—

	Divisions.		
I—Corps, Turin 2
II—Corps, Alessandria 3
III—Corps, Milan 3
IV—Corps, Verona 3
V—Corps, Trieste 4
VI—Corps, Bologna 3
VII—Corps, Florence 2
VIII—Corps, Rome 2
IX—Corps, Bari 2
X—Corps, Naples 3
Sicilian Command 2
Sardinian Command 1

It will be observed that the strongest army corps of all is the one on the frontier of Yugo-Slavia.

(b) Cavalry.

In the cavalry there has been practically no change. The number of regiments remains 12, but instead of being organized into 3 brigades, they are now grouped under 3 so-called "Commandi Superiori di Cavalleria," with headquarters at Turin, Udine and Rome, each "Commando" (like the former brigades), embraces 4 regiments and will, on mobilization, almost certainly become the headquarters of one of the 3 "light Divisions" to be formed of cavalry, horse artillery, armoured cars, Bersaglieri (cyclists), and other fast-moving troops.

(c) Artillery.

(i). *Horse Artillery*.—No change. The only existing regiment remains at Milan.

(ii). *Field Artillery*.—The number of regiments is being raised from 27 to 30 in order to provide 1 for each division.

(iii). *Heavy Field Artillery*.—Regiments are being reduced from 14 to 11, so as to furnish 1 for each of the 10 army corps, and 1 for the Sicilian Command.

(iv). *Heavy and Coast Artillery*.—The existing 10 combined regiments of heavy and coast artillery are being separated and re-grouped into 5 heavy regiments and 3 coast regiments.

(v). *Mountain Artillery*.—The number of regiments (3) remains unchanged.

(vi). *Anti-Aircraft Artillery*.—The existing 10, anti-aircraft artillery groups are being re-organized on a regimental basis and converted into 12 regiments each commanded by a colonel. It appears that there is to be 1 regiment for each of the 10 army corps, plus 1 each for Sicily and Sardinia.

(d) Engineers.

In place of the 10 existing "groups" of engineers, 11 regiments are being formed, 1 for each army corps and 1 for Sicily. A special mixed detachment will be allotted to Sardinia. In addition, a new wireless telegraph regiment (the second of its kind in the Italian Army) is being raised at Milan.

(e) *Infantry.*

The greatest changes have occurred in the infantry, and being closely connected with the territorial organization of Italian army corps and divisions, they are deserving of special attention.

Up to 2nd October, 1926, the Italian infantry consisted of—

- 1 brigade of Grenadiers (2 regiments).
- 51 brigades of the Line (102 regiments).
- 3 groups of Alpini (9 regiments).
- 12 regiments of Bersaglieri cyclists.

The last two may be disposed of first.

(i). *Alpini*.—The 3 “groups” of Alpini have been re-named “brigades,” but the number of regiments (9) remains unaltered. The 1st Brigade consists of 4 regiments, and guards the French frontier; the 2nd, of 3 regiments, guards the Swiss and Austrian frontiers, while the 3rd, of 2 regiments, faces Yugo-Slavia.

(ii). *Bersaglieri*.—Up to about the middle of 1925, 6 of the Bersaglieri regiments were light infantry and the remaining 6 cyclists. They are now all cyclists, and it is practically certain that on mobilization the majority of them will form part of the three light divisions already referred to under cavalry.

(iii). *Grenadiers and Infantry of the Line*.—Under the Diaz organization of January, 1923, each division included anything from 1 to 3 brigades, which totalled 52, each of 2 regiments. There were thus in all 10 army corps=30 divisions=52 brigades=104 regiments.

But although the division was supposed to be the basic fighting unit, it was actually little more than an administrative organization, and never really existed in a tactical sense at all. Many proposals to remedy this state of affairs were put forward, but none were accepted until the spring of the present year, when the so-called “Divisions Ternaria” was decided upon. Simultaneously it was also decided that the total number of divisions should remain the same as before, i. e., 30.

The exact composition of the *Divisione Ternaria* has not yet been laid down, but its main components are an infantry brigade of 3 regiments, a regiment of field artillery and such “divisional troops” as will cause the whole to constitute a self-contained

tactical unit. In future, therefore, each Italian division, instead of including anything from 1 to 3 brigades of infantry, each of 2 regiments will have only a single brigade of infantry of 3 regiments, and that brigade becomes the infantry of the division.

That above composition of the *Divisione Ternaria*, and the decision to adhere to the total of 30 divisions, necessarily entailed reductions in the existing numbers of brigades from 52 to 30 and of regiments from 104 to 90. The 22 redundant brigade headquarters have already ceased to exist. The regiments have either been disbanded or are in process of transfer to the 30 brigades whose regiments have been increased from 2 to 3. In actual fact 15 line regiments instead of 14 have been disbanded, but one new regiment is being formed to complete the brigade of Grenadiers.

Incidentally it may be mentioned that all the brigades, except the Grenadiers, have abandoned the names by which they were hitherto known and have assumed serial titular numbers from 1 to 30 corresponding in each case to the number of the division to which they belong.

3. *Composition of Armies and Expansion in case of War.*

In the event of war the 10 army corps shown above will be formed into 4 field armies, for each of which an army commander designate is appointed in time of peace.

Under the Diaz organization it was reckoned that on mobilization the 30 peace-time divisions which then existed would be expanded to 60. Under the Cavallero organization it is probable that, including the 3 light divisions and allowing for expansion of the 3 Alpini brigades, the total number of divisions and equivalent formations intended to take the field will also be 60.

4. *Military Training.*

With respect to training, it is difficult to estimate the standard of efficiency attained by the Italian Army; but there is no reason to suppose that, except possibly in the case of Alpini troops, that standard is particularly high; nor is it likely to become high until a halt is called to incessant change in organization and until properly co-ordinated training regulations are drawn up for all arms. In this connection it is an astonishing fact that, although 8 years

have elapsed since the Great War came to an end, no training manuals in the proper sense of the term have yet been issued. Besides a short document containing general instructions for the training year 1926-27, only one small volume, dealing with a part of artillery training, has been published. It is, of course, possible that further instructions have been issued confidentially, but so far as known all other arms are still without any training manuals. Books on combined training, like the British Field Service Regulations, do not exist. The consequence is that even officers going up for promotion examinations have no means of knowing the difference between right and wrong. They can only trust to luck and hope that such opinions as they express may happen to coincide with those of the examiners. In such circumstances the standard of training cannot be high, whilst uniformity of training must be impossible.

5. *Conclusions.*

From what has been said in the preceding pages it will be evident that, although much still remains to be done, the last twelve months do show considerable strides in the right direction. The mere fact that the composition of higher formations has been more or less definitely settled is in itself a distinct gain. The territorial limits allotted to individual army corps and divisions appear to be an improvement on those under the old scheme, which left much to be desired from a strategical point of view. But there can be no doubt that the latest reorganization, as a whole, is a great improvement upon anything that Italy has had before. It does not materially alter the country's fighting strength in point of numbers, but it should greatly facilitate training, administration and mobilization.

Another advantage of the highest importance will accrue to Italy if, through the Cavallero reforms, she at last secures a military system that will be stuck to and that will put an end of the disturbing effects of the incessant changes that have been the bane of her army for the last seven years. She now has a sound foundation to work: on it only remains to be seen whether she possesses sufficient steadfastness of purpose to keep an even keel and a straight course. Owing to certain inherent defects in the Italian character, this point must always be open to doubt. But the leaders of military thought in Italy

to-day are able men and, provided that the present Government continues in power, there is no reason why they should fail. Strong, inspiring leadership is what the Italian Nation and the Italian Army need every time and all the time : given that they may achieve anything ; without it they will go to pieces. There is probably no race of which it may be said more truly that "men are nothing, the man is everything." Whether "the" man will be found when the next war breaks out is on the knees of the gods ; but, until it is quite certain that he is not forthcoming, it will be dangerous folly to under-estimate the fighting value of the Italian Army.

CORRESPONDENCE.

The Training of the Auxiliary Force.

SIR,

I have read with great interest the article by Colonel D. S. Mackay, V. D., entitled "An Aspect of the Training of the Auxiliary Force (India)," which appears in this number of your Journal.

Colonel Mackay expresses a fear that his article may verge on a criticism of existing regulations. His fear appears to be hardly justified as, throughout his article, he only advocates a still stricter adherence to the orders conveyed in para. 85 of Regulations for the Auxiliary Force (India), 1921, which he quotes at the beginning of his article.

The limited liability to perform military service imposed by law on the A. F. (I) and the obligation laid on the authorities to replace A. F. (I), when called out, by regular troops or otherwise, as soon as circumstances permit, clearly show that the A. F. (I) is intended to be used for internal security duties.

Such duties comprise assistance of the civil power in the maintenance of law and order and the provision of essential guards. Maintenance of law and order may entail the dispersal, not only of riotous mobs in cities, but also of armed gatherings of rebels against the authority of the Crown.

The history of the Mutiny in 1857 gives instances in which the dispersal of gangs of rebels entailed the attack and defence of localities accompanied by sharp fighting. Such localities may not be on roads suitable for motor transport and it may be necessary to move to them on foot and previous practice in moving "as a company or platoon of regular infantry" may prove of great value. The attack of such a locality would require the collective fire action of troops and perhaps the use of the bayonet, with or without a grunt, and the "diamond" or "arrow head" formations, which, in the case of regular troops, tend to lessen their losses from artillery fire, would also tend to lessen the losses of Auxiliary troops from small arm fire from smooth bores and perhaps sporting rifles.

A charge by Light Horse would often be the quickest and most effective method of dispersing an undisciplined gathering of rebellious peasantry.

By all means let the A. F. (I) practise in peace the duties which would fall to them in times of emergency, but attempts to run without adequate tuition in walking are apt to be disastrous, and, unless the Auxiliary soldier can use his arms efficiently and carry out simple tactical exercises, he is unlikely to be very successful in carrying out his more difficult duties such as street fighting, provision of escorts to non-combatants, treasure, etc.

My own experience is that the exercises carried out by Auxiliary Force units are almost invariably based on the duties they would have to carry out in time of emergency and these exercises are performed with great keenness and intelligence and considerable skill.

Yours faithfully,

DOGSHOOTER.

Some Criticisms of the present Revolver Course.

DEAR SIR,

Is the present revolver course in keeping with either the letter or the spirit of modern training in revolver shooting as taught by S. A. T., Vol. II ?

In Chapter III, Section 2, we have the following printed in black type :—

“The method of shooting is to fire instinctively and instantaneously by sense of direction.”

And again :—“For service conditions the quickness with which one or more effective shots can be fired is more important than the close grouping of shots” (Section 3).

Once more :—“Shooting by sense of direction is the *bedrock* of the system of training for service shooting, whether the revolver be fired with the use of *sights* or without the use of *sights*.....”

I make no apology for quoting these extracts, as it is the object of this article to show that there exists a flaw in our present revolver course which militates in a direct manner against the teaching contained in these passages.

Though, from the above quotations, it is evident that the chief object, underlying the training in holding and firing a revolver, is to do away with all idea of *deliberate* aim, it is contended that certain practices laid down in Part II of the present course are a direct temptation to do the contrary—a direct incitement to take this deliberate aim so strongly condemned in theory.

I propose to show that No. 2 figure target itself is the culprit.

As we all know, this target takes the form of a $\frac{3}{4}$ size human figure, furnished with a small black aiming mark in its centre (mistake No. 1), and an inner rectangle size 16×12 inches (mistake No. 2).

2. To take “mistake No. 1” first.

The question that immediately jumps to the mind is :—

“Why the black aiming mark”?

If a deliberate aim with the revolver is condemned so strongly by our experts, why provide a direct temptation to the firer to ignore all teaching to the contrary by furnishing him with a small mark in the centre of the target on which to align his sights ?

Where then is our “bedrock” of training, the shooting by sense of direction, and what has happened to this principle of our training on which we are told to base all our instruction ? As long as an aiming mark exist on the target, men will aim at it, this is human nature. Even our revolver experts and school instructors fall to the temptation as will be evident to any critical observer.

The cry nowadays, and for some time past, is all for “service targets.” What “service target,” likely to confront a No. 1 or No. 2 Lewis gunner, will be found to have been provided by a benign providence with an aiming mark conveniently placed on the most vital part of its anatomy for the benefit of its enemy ?

Further, would it not be better instruction to abolish a mark which is not met with in nature, and which has not the same reason for its existence as the bullseye on a rifle target in days when a deliberate aim was taught and fostered.

It would appear that the abolition of this aiming mark in the advanced practices has not been considered seriously, and that it is merely a legacy from pre-war days and Bisley shoots, a legacy which has been overlooked, allowed to remain, and for which there can be no justification.

3. "Mistake No. 2".

We are told that all deliberate aim is anathema, and yet a rectangle is provided in the centre of our "service target" (Fig No. 2) this space of 16×12 inches carrying higher scoring points than the remainder of the target.

Here we see the existence of the "cloven hoof" once more. Who indeed will be content with a 3 point hit on the rest of the target when his neighbour has put on a possible of "fives"? Again we find practice fighting against, and vanquishing, theory.

4. As all criticisms should be constructive and not merely destructive, the following suggestions are put forward as a possible solution to the problem:—

- (1) Abolish the aiming mark in figure No. 2.
- (2) Abolish the 16×12 rectangle.
- (3) Reduce the area of the target to represent the vital part of a man's body, and allow all shots thereon to count the same value, a case of hit or miss.

As an alternative to (3) if it is contended that the figure No. 2 target when cut down in size would not resemble any known "service target," a reduction in time is suggested for each shot (in such practices as Part I Nos. 6, 7 8 and Part II Nos. 9 and 10) to such an extent that a deliberate aim is no longer possible.

5. It is contended that the changes suggested above should go a long way towards reducing considerably the present temptation to take a deliberate aim, which undoubtedly is now almost universal in spite of the great efforts in our training to eliminate it.

As a test of the truth or otherwise of this criticism, would the A. R. A. authorities consent to experiment in the "Frances Cup" competition by abolishing No. 2 figure target, and substitute conditions based on the above suggestions? The resulting experience should be invaluable.

Yours faithfully,

O. B. BENNETT, MAJOR.

Preliminary Weapon Training.

DEAR SIR,

In the article on "Progressive Training" by Capt. H. R. Power in your April number, the following statement occurs on the subject of weapon training:- -

".....Under the present system it is essential that preliminary position drill on the parade ground should precede the actual work of the annual course." The above is quite true and very often two weeks are spent on preliminary preparation in order to obtain satisfactory results on the range. This is of course quite wrong, as Captain Power points out. The fault however lies, I think, in the fact that in most units, except for the month or so devoted to preliminary training and firing of the annual courses, weapon training in so far as it effects practice in the use of the rifle and Lewis gun is entirely neglected.

If every rifleman and Lewis gunner was given training daily, or at least three times a week, throughout the whole year, the soldier would always be able to use his weapons effectively. Ten or fifteen minutes daily would be quite sufficient and the parade should include whenever possible employed men. The rifleman would be practised in aiming, trigger pressing, snapshooting, rapid fire training and muscle exercises; the Lewis gunner in elementary and advanced handling. Standard tests could be taken monthly, and those men who passed all their tests, would be excused the daily parades for a month, at the end of which they would be again tested.

If in addition to the above, monthly competitions on the long or short range were held on the platoon or company basis, there would be no need for preliminary preparation prior to firing the annual courses. The battalion average would be a permanent one and not one produced as the result of two weeks intensive training. Besides the ordinary range practices, quickening exercises, individual and section battle practises should be included in the monthly competitions. These would train a man, as far as it is possible in times of peace, to use his rifle or Lewis gun most effectively in the field.

Yours faithfully,
E. C. SAW, LIEUT.

Order of March.

SIR,

Perhaps you will permit me to reply to "F. F.'s." observations on my letter. He writes "it is hard to argue with a P. B. G. because his advanced guard is not usual"—and again "it is hard to visualise such an advanced guard as a P. B. G. quotes. . . . what is left for the vanguard?" The answer—which I should have thought was obvious—is, one company. I did not specifically mention this because it was irrelevant, and your space is precious—why is it hard to visualise one company as vanguard? Later on F. F. states "it is customary to have one company," so it should not be hard to visualise it.

Might I make another point now that I am writing? I am far removed from books of reference and even from January Journal but incidentally I note some misprints in "F. F.'s" letter. In the main guard, for 1 *battalion* read 1 *battery*, and the road space of 3 batteries is not 3,150 yards, but about 1,050 yards. Now this road space can be cut down considerably when it comes to the point. It includes the "1st line" wagons—the gunners like to keep these "1st line" wagons with the Firing Battery as long as possible, and any suggestion that they should be separated will not be welcomed by the artillery. But they can be so separated when an action becomes imminent and placed in rear of the fighting troops. The infantry can then close up into the space thus made vacant. The road space of a 4 gun firing battery will then be 200 yards, and of a brigade, less 1 battery, 650 yards. Now assuming that you want your main body as I have shown it, 1 battalion—3 batteries—2 battalions, can it be much hardship to the leading battalion to drop back 650 yards, thus allowing the artillery to march in front? It is only 6½ minutes in rear, not half an hour, as the Editor seems to imagine. In any case is this leading battalion likely to be required before the other two? Consider the situation. The A.-G. is held up. The main body will have to assist. The commander makes his plan. 2 battalions shall attack, the 4th remaining in reserve. The two leading battalions must act fairly simultaneously, yet they are separated by the artillery brigade.

Meantime the leading battalion is inconvenienced by orderlies galloping past it to bring up 3 batteries staff, and brigade H.-Q. staff.—about 50 horsemen in all—who will in turn come galloping up from the rear. I think if they were given the choice they would sooner let the guns march in front.

My assertion that there will always be sufficient warning of the imminence of an engagement to "disengage" the 1st line wagons is, I think, borne out by war experience—when the 5th Cavalry Brigade, for instance, marched into Belgium it resembled a peace march—a report came through that enemy had been located in front. The column halted and in a few minutes the artillery 1st line wagons were disengaged and the column closed up, continued the advance, ready for action.

Another semi-peace march was being made while the cavalry marched by Mont Didier *en route* from the Aisne to Ypres. Suddenly a request came from the French for assistance. A very few minutes sufficed to put the column in battle trim.

If the guns, on the other hand, are put behind all the infantry, *i.e.*, 1½ miles for the leading battery, 2 miles for the rear battery, from the head of the main body, it will occasion nearly half an hour's delay before the battery staff can commence their technical reconnaissance.

In the amazing Battle of Etche on August 22nd 1914, whereas the leading French battery bumped into the enemy and became immobilised the remainder were so far behind, strung out along the road that they were not in a position to come to the assistance of the A.-G. until it was too late. May that fate never overtake the British artillery.

Yours faithfully,
A. P. B. G.

Protection against Aircraft.

DEAR SIR,

It may be all very well on festive occasions, such as guest nights, to express in song our admiration for the gallant indifference with which the ostrich is alleged to await the approach of his enemy, but the example is hardly one to be followed by fighting services in their training for war. Yet this is just what the Royal Air Force and the Army are both doing at the present moment.

Two examples of actual occurrences on recent manœuvres will show what is meant. Both occurred within three hours of one another on the same day, and are quite typical of what must have

been happening all over the manœuvre area and what will happen, if we are not careful, at the beginning of the next war.

(a) At dawn a force of one infantry brigade and three batteries was advancing across a very open plain, as is found all over the Northern Punjab. The only cover consisted of four or five villages a mile or so part from one another, and a single isolated wood.

As it became light an enemy machine was observed flying up and down at about 4,000 feet. It must have been perfectly obvious, even to those who knew little of the habits of aircraft, that this enemy machine was not just passing over at random. From its movements there was no doubt whatever that it had detected the movement of troops and was watching them.

What did these troops do? In full view of this machine they all marched into the little isolated wood and stopped there. There was hardly room for them all, but they just managed to squeeze in like sardines, with the exception of the third battery, for which no room could be found at all.

This battery came into action about eight hundred yards in front of the wood *in the open*, and having nowhere to put its mules under cover, scattered them in groups of two or three at wide intervals on the open fields behind the position.

The inevitable happened. Within half an hour a formation of low-flying E. A. arrived and carried out an attack on the crowded wood, entirely ignoring the scattered and unsatisfactory target formed by the battery in the open. No doubt the wood was also heavily engaged by enemy batteries on receipt of the first air report, but of course under manœuvre conditions that was not so noticeable as the air attack.

(b) The second case of ostrich-like behaviour was an attack by three low-flying enemy aircraft on a battalion which was fully deployed and under cover in some water-worn country. The machines came down to within fifty feet of the ground in a fairly long straight dive and at no part of the attack were they more than three hundred feet up. There could be no doubt at all in the mind of anyone who had carried out "ground-strafting" during the war, that not one of the three machines would have survived the Lewis gun fire of the battalion.

Now the writer does not claim to be unique in having noticed these two incidents, but it is possible that their full significance may have escaped some onlookers.

Just as the ostrich, in hiding only his head, tries to ignore an unpleasant fact of nature—namely, that his body is large and very visible—so both the Army and the Royal Air Force since the Great War have been deliberately shutting their eyes to certain tactical truths.

“A little knowledge is a dangerous thing.” Most army officers know just enough about concealment from aircraft to understand that trees and shadow are the best concealment. In this particular case the four or five villages were useless owing to the narrowness of the streets, so their little knowledge attracted them all into the wood, which of course proved a death trap.

What was the correct appreciation of this situation? I venture to suggest that it was somewhat as follows:—

“It is obvious that the enemy machine is aware of the presence of a considerable force in this locality. There is no way of getting out of his sight except by going into the wood. If we do so he will know exactly where we all are because there is nowhere else where we could be out of sight. We shall gain nothing by trying to hide in the wood. On the contrary we shall present a crowded and vulnerable mass and be unable to use our best defence against low-flying attacks—rifle and Lewis gun fire owing to the trees.”

“There is only one other alternative (the villages being useless). We must remain in the open plain, very widely deployed in order to offer an unprofitable target, and protect ourselves against low-flying E.A. by the very effective weapons available, namely, rifle and Lewis gun fire.”

Why was not this solution adopted by any of the units except the third battery (and only then owing to bare necessity)? Because the great effect of S. A. A. fire on low-flying machines is not realised by the army and apt to be ignored by the Royal Air Force.

A comparison between Field Service Regulations, Volume II, of 1924 and its predecessor is instructive, in that it emphasizes the changes of tactical ideas which have been accepted by the authorities responsible for our tactical doctrine. In fact, it shows up clearly those matters upon which there has evidently been considerable

discussion and thought during the period between the publication of the two editions.

One of the most remarkable modifications of doctrine is to be found in Section 65 of the later edition. Here we find it clearly laid down that fire should be opened against all low-flying hostile aircraft except in certain special cases; whereas a study of the previous edition shows that such fire was then considered of doubtful value, and was in fact to be discouraged as a rule.

The very fact that so definite a change has been made in the present edition shows that the matter has been thought out carefully, and we may take it that troops ought now to be trained to fire upon low-flying E. A., and that arrangements should exist in every unit for controlling such fire even when the unit is widely deployed.

Yet what is the actual state of affairs? The writer recently attended a lecture by a fairly senior R. A. F. officer in which the lecturer very definitely gave his audience the impression that "ground troops" are as a rule ill-advised to fire at low-flying E. A. It was in vain that the writer ventured to dispute this idea, putting forward as arguments our "ground-strafting" machine losses during the 8th of August, and other battles. The audience naturally looked upon the lecturer as the expert being a fairly senior R. A. F. officer who was still presumably flying, and ignored the views of one who was only flying during the war.

But the matter at issue is a very serious one for both services. Perhaps the lecturer may have been giving his own personal opinion, but there are many R. A. F. officers who share his views. The large proportion of flying officers still flying are too young to have experienced the effect of S. A. A. fire from the ground. Consequently in the next war they may be expected to do as they do on manoeuvres, with the result that after the first few days our air forces may be temporarily crippled by casualties.

It may be an unpleasant truth for those who like to claim that aircraft have no limitations, but it is truth which has got to be swallowed. To ignore hard facts like this, and to bring up young flying officers to think that aircraft can do what they cannot do is the "way of an ostrich."

To try to inculcate into army officers the belief that "ground troops" are helpless against aircraft is a most short-sighted and

dangerous policy. It is in direct opposition to the teaching of F. S. R.—compiled it may be assumed with the advice of flying officers—and is not I think the honest opinion of anyone who carried out low flying during the war.

The subject of anti-tank defence is being very widely discussed at present, but that danger is in reality only one of the future. The number of belligerents who could bring into the field appreciable forces of fast modern tanks is rather limited. But almost any army whom we may fight in the immediate future (except tribesmen) may be expected to make use of a certain number of aircraft, flown very possibly by European adventurers of considerable war-flying experience.

It appears to be high time that the two services made some attempt to face facts. By bridging if possible the gulf which has come between them since the war, let us hope that the training of their respective fighting personnel may be brought more into accordance with reality and the teaching of F. S. R.

Yours faithfully,

R. HILTON (CAPTAIN, R. A.).

REVIEWS.

NOTES ON TRAINING FOR WAR.

By

LIEUT.-COLONEL A. KEARSEY, D.S.O., O.B.E.

(HUGH REES, LTD., LONDON).

* * * * *

A short treatise recently published with a view to assisting candidates in preparing themselves for the Staff College Entrance Examination.

Colonel Kearsey has endeavoured to condense a very wide field of study into one small volume for the benefit of candidates.

The idea is excellent for those officers who have not the facilities of Aldershot or an organised "Backward Boys Course" at their command.

Unfortunately the requisite maps for the schemes given are not included as an appendix, nor can they be readily purchased in India, which considerably lessens the value of the book, although it does of course also lessen its price.

Colonel Kearsey has chosen the 1922 examination for his detailed solutions, which is in accordance with the general 'period' of the book.

With the 1927 examination in their minds, candidates will, however, do well to bring their study right up to date and even to carry it into the possibilities of the future, covering in particular the main vistas of gas, mechanization and the consequent re-organisation and change in our tactical ideas.

The chapter on mountain warfare is good and other specialised forms of fighting are touched on, while a useful selection of essay subjects is given for the candidate to work up.

In general, while being of use in showing prospective candidates the line their studies should take, such a small publication can only hope to supplement the very wide and thorough knowledge which a candidate must obtain from a study of the training manuals before he has any reasonable chance of success in the Staff College Examination.

**“ TACTICAL SCHEMES FROM PLATOONS TO BRIGADES
WITH SOLUTIONS AND NOTES COMPILED**

By

A. KEARSEY, D.S.O., O.B.E., P.S.C., LATE LIEUT.-

COLONEL, GENERAL STAFF.

(MESSRS. GALE AND POLDEN, LTD., ALDERSHOT, 1927), 7s. 6d.

In view of the large number of candidates sitting for the promotion and Staff College examinations, it is perhaps inevitable that “cram” books dealing with the various subjects should be coming out in somewhat bewildering numbers.

The teaching of the particular book under notice appears, not in a few respects, to be at variance with the principles contained in the official manuals on which it claims to be based. A few instances must suffice.

The examples of “appreciation” seem to be very long, and to contain a good deal of unimportant “padding.” In our Training and Manœuvre Regulations it is stated quite definitely that “nothing should be written down (in an appreciation) that is not essential to the solution of the problem under consideration and that has not a definite bearing on it.” Similarly the examples of telegraphic orders are very lengthy and full of redundant matter; one picked at random, supposed to be written by a humble company commander, contains over 400 words. According to Infantry Training, an order must be as “brief as possible consistent with clearness,” while in Field Service Regulations, Vol. II, it is stated, in thick type that “an operation order must contain just what the recipient requires to know and nothing more.”

The use of one section of 3·7 Hows. alone and unaided, to put down a “creeping barrage” on a 200 yards front, or the digging of a three feet deep trench a thousand yards long by three infantry platoons in two hours, needs no comment beyond that which the artillery section commander and the men in the platoons might be expected to make in real life.

The explanations of infantry dispositions for attack, defence, outposts, and rearguard action would be liable to imprint a geometrical diagram on the mind of the student, and savour of a blackboard rather than a battlefield. The impression conveyed is that these dispositions should be applied under all circumstances,

irrespective of the frontage allotted the task in hand, or the ground. As particular care is taken in many places in Infantry Training to rub in the principle that formations must vary according to circumstances, students who get the reverse idea into their heads are not likely to meet with unqualified success in the field or in the examination room.

The maps to which the schemes and solutions refer are not supplied with the book. They are the $\frac{1}{2}$ -inch Ordnance Map of Colchester and the 1-inch Ordnance Map of Aldershot. Apart from the fact that officers in India will probably find it difficult to procure them, it is curious that such small scale maps should have been selected, when a 1-20,000 map is generally used for promotion examinations.

KAISER WILHELM II. (FROM BIRTH TO EXILE).

By EMIL LUDWIG (AUTHOR OF "NAPOLEON," ETC.).

Translated from the German by Ethel Colburn Mayne.

(G. E. Putnam's Sons, Ltd., London and New York, published in November 1926, price 18s. 6d. ; 459 pages and 21 illustrations).

This is a remarkable book, that cannot fail to be of absorbing interest to students of history and world politics, and especially of the events that led up to the Great War. It presents us with a real and lifelike portrait of William II, the man who for 30 years was probably the most powerful individual in the world, thanks to the wonderful position created by Bismarck for the ruler of the German Empire, and thanks to the strength of the German Army the victors of Koniggratz, Worth, Gravelotte, Sedan and Metz. The author claims to have done his best to be fair to the Kaiser, and to have constructed his portrait "wholly from his own deeds and words, together with the reports of those who stood in close relation to him ;" in the pages of this volume "neither socialist nor alien voices are heard—only the voices of the Emperor, his relatives and friends, his Chancellors, Ministers and Generals, his courtiers and officials." He shows that for 30 years, the Kaiser decided all great national problems for his country ; "that no vital question, whether in peace or war, was ever answered without consulting him—no, nor ever answered against his will."

On the whole, the book gives an accurate picture of the character of the man who wielded such power, and is therefore of great historical interest and importance, a book likely to take a high place in the chronicles of the stirring years before and during the Great War. It give us the inner history of the Kaiser, and the views held about him by his close friends and intimates, his Ministers and Generals, etc. It unveils his numerous foibles and weaknesses, and emphasises the most conspicuous traits in his character, which were charm of manner, vivacity, instability, extravagance, arbitrariness and intense, almost insane vanity. We all knew that William II was essentially superficial, but he is now exposed as a lazy man, with a quick and even brilliant brain, but with "no liking for continuous work or for real knowledge." Like so many garrulous people of our acquaintance, this apparently wonderful versatility disguised mere superficiality, and a want of deep knowledge of almost every subject. The autocratic theatrical Kaiser, the All-Highest War Lord, who regarded himself as semi-divine, and promised to lead his army to glorious days is shown to have been a coward at heart, both physically and morally. A perusal of this book cannot fail to strengthen the convictions felt by most students of pre-war history, that the Kaiser, more than any other man, was the real author of the Great War, not so much intentionally as on account of the weakness of his character, and of mistakes of his foreign policy.

There can be no more sweeping condemnation of autocratic rule than the revelations contained in Herr Ludwig's book. Endowed with intelligence far above the average, William II might have risen to high position and become a valuable member of society had he been born an ordinary citizen. As it is, he bears a large share of the responsibility for the death of some ten million men, for untold misery, for one of the greatest upheavals in the world's history.

And yet, in reading the merciless description of the Kaiser's weaknesses and mistakes, we must not forget that, during the 26 years of his reign between 1888 and 1914, he did a great deal for his country. If we lay much of the responsibility for the war at his door, he must be given the credit for having rendered great services in his efforts to develop German trade and commerce, to increase Germany's prosperity and to strengthen her position throughout the world. He had his good points, and it was more the fault of the system, the autocratic rule created by Bismarck,

and the disgraceful flattery and sycophancy of his entourage, that his failure was in the end so tragic and complete.

King Edward's description of his nephew as "the most brilliant failure in history" is an apt one, and dates from a period at which the Kaiser was at the height of his power. Germany at the end of the 19th century, and in the early part of the 20th century, was indeed a wonderful nation in war, art and commerce; in wise, firm hands she might easily, by peaceful methods, or even by war, have established a hegemony over Europe. But the hands of the Kaiser were neither wise nor firm, and the dangers of autocratic rule by a weak man are well shown in this brilliant book.

Herr Ludwig has divided his volume into three parts. In the first, we are shown the boyhood of the Emperor, his somewhat harsh treatment by his father, and his gradual alienation from his mother (Victoria), which was the original cause of his hatred for England. The Kaiser's perpetual struggle with his deformity (his withered arm), in shooting, ridings, etc., is clearly brought out, and the way in which he overcame this disability is undoubtedly much to his credit. His mother could never forget or forgive his deformity, and this caused much bitterness and estrangement between them. The author gives us an interesting picture of Bismarck, before the Kaiser came to the throne, during the last two years of Bismarck's Chancellorship (1888-1890), and after his retirement into private life. It is interesting to note that Bismarck, whilst rather inclined to be anti-British at heart, was strongly in favour of friendly relations between Germany and Great Britain; had he remained in power, it is probable that the two countries would have been drawn more closely together, possibly even into an alliance: he saw clearly the danger of a big German Navy, did not consider it necessary, and regarded its creation as certain to lead to war with England in the end.

In these pages we see the first acts of the Kaiser after his accession, and his determination gradually to rid himself of Bismarck's tutelage. From the outset he was anxious to pose as a great soldier and mighty War Lord, and the weakness of his character led him into what the author well describes as "over-virile utterances." His maiden proclamation to the Army, on becoming Emperor, included the following high-falutin sentences:—"Thus we belong to each other—I and the Army—we were born for each other, and will cleave indissolubly

to each other, whether it be the Will of God to send us calm or storm." He believed himself to be the instrument of God, and regarded himself in the same light as a "King of antiquity who was High Priest as well, a mediator between God and People."

Part I. takes us to the fall of Bismarck, the "Dropping for the Pilot" Part II. is a history of the cabals and intrigues that followed, in the years from 1890, during the Chancellorships of General Caprivi (1890-94) Prince Hohenlohe (1894-1900), and Prince Bülow (1900-1909). In these intrigues the chief figures, apart from the Kaiser, are the Prince zu Eulenburg, the friend and principal confidant of the Kaiser: Baron Holstein, the clever, unscrupulous and extremely unpleasant Foreign Office Official who was for so long a power in the land: Count Waldersee, soldier, diplomatist, and intriguer, who commanded the Allied Armies in North China in 1901: Prince Bülow, brilliantly clever, but somewhat devoid of character: and Admiral von Tirpitz, the creator of the Big German Navy and strong enemy of England.

From 1890 to 1897 Germany was ruled by the Emperor, Holstein and Eulenburg, neither Caprivi nor Hohenlohe having any real power; from 1897 to 1908 these three men ruled, plus Bülow. From 1890 until his fall in 1906 Holstein was the secret power in German, "preponderant in all important questions of foreign policy" a sinister remarkable man, the complete opposite of his master the Kaiser: shunning all show and publicity, anxious to remain behind the scenes, "despising rank, titles and decorations, refusing the post of Secretary of State in order more surely to retain the power attached to it": a bitter enemy of Bismarck, and hostile to Great Britain.

The Kaiser's relations with Prince Eulenburg were under discussion for many years, and Eulenburg has been the subject of innumerable and often most unpleasant caricatures in *Simplicissimus*, *Kladderadatsch* and other German illustrated papers whose appeal to the public is largely based on the vulgarity and indecency of their pictures. Although there is no suggestion of immoral relations, we are left with no doubt that the friendship of the Kaiser for Prince Eulenburg, a friendship that lasted for 30 years, was unmanly and unhealthy: at times they wrote to each other almost as lovers, and Eulenburg's position was that of a Royal favourite in mediæval times.

Herr Ludwig gives an extremely interesting description of the Kaiser's attitude towards England during this period. There is no doubt that William II had a great admiration for many things English, but like the great majority of Germans he failed completely to understand the British character. At the same time he remained at heart, as he had been since his boyhood, bitterly hostile to England. The personal relations between him and Queen Victoria and King Edward are well portrayed, and also his action at the time of the Jameson raid, the South African War and the Daily Telegraph interview. In the case of the Jameson raid he displayed amazing ignorance, and came near to a declaration of war against us, apparently quite failing to realise that the superiority of our navy rendered any German military intervention quite impossible. His duplicity on many occasions was astounding, especially during the South African War, when he masqueraded as our friend, whilst he was in reality doing his best to organise a coalition against us. The story of the Daily Telegraph interview is told in some detail, and exposes in a remarkable manner the carelessness and ineptitude of certain high German officials.

Throughout the book we see the disgraceful and universal flattery with which the Kaiser was surrounded, flattery that must have had its effect on a far stronger character than his, and was disastrous to a weak, vain man like William II. The author can only cite three men who ever dared to tell unpleasant truths to the Kaiser; Eulenburg was his only intimate who could venture to be even moderately frank, and he was careful to disguise his frankness in a more or less palatable way.

The story of the naval rivalry with England is well told, and we see how the repeated attempts of British statesmen to bring about an agreement were rebuffed by the Kaiser, thus forcing us into the other camp.

The impulsive and unbalanced character of the Kaiser was apt to manifest itself in his speeches, which were the terror of his Ministers, and also in his semi-official utterances to foreign diplomats and military attachés. Occasionally his remarks were apt and clever, but they were too often unwise and provocative, not appreciated by those whom they were intended to please, and deeply resented by others. The origin of the name of Huns, applied to the Germans during the War, is of course traceable to his speech

on the departure of the German troops to China in 1900, whom he likened to the "Huns under their King Attila," and whom he instructed to behave in like manner.

His domestic policy was often unwise, and he found it impossible to realise that a Socialist could be quite a patriotic German. In one of his speeches he said, "In my view every Social Democrat is an enemy to his State and country."

In the third and last part of the book, we see the Emperor, having discarded Bülow in 1909, gradually drifting into war, not intentionally, but on account of the undue influence of the pan-German party: unpopular with the naval and military party, who thought him too weak, and with the Socialists, who were clamouring for parliamentary government: supported strongly, however, by the bourgeoisie, who had grown prosperous, and were every year growing more prosperous under his rule. Little is said about the part played by the Kaiser in the war, but it is clear that his share was by no means a glorious one, and that eventually he allowed Hindenburg and Ludendorff to assume complete control.

There is a graphic description of the closing scenes, the effect of the German defeats of the summer and autumn of 1918, the insistent demand of Hindenburg and Ludendorff for an immediate armistice owing to their fear of a complete collapse of the German armies, the advent of Prince Max von Baden as Chancellor, the Kaiser's abdication and the last scene, his inglorious flight across the frontier. There have been few more ignominious falls from supreme power than that of this pompous, vain monarch, who for so many years occupied the centre of the European and world stage.

The translator has done her work remarkably well. There are a few minor points, which might be improved, *i.e.*, the references to "millions" in talking of money, when the addition of Marks in brackets might be a useful help. The correctness of some of the military terms is doubtful, *e. g.*, "the orderly (sic) from Turkey was anxious to see His Majesty"; in this case the orderly officer, or liaison officer is presumably meant.

LIST OF THE OFFICERS OF THE BENGAL ARMY, 1758—1834.

By

V. C. P. HODSON, I. A.

(Constable & Co., Ltd., London, 1927), 21s.

This work is intended to be a revised and up-to-date edition of Dodwell and Miles List "Alphabetical List of the Officers of the Bengal Army 1760—1834."

It contains records of all the officers borne on the Bengal Establishment between June 1758 and December 1834.

It is intended as a work of reference and should be of use to students of Indian Military History.

It will consist of 4 volumes. The first part contains, in addition to 1,520 officers, a list of all the campaigns, actions and sieges in which the Bengal Army took part from 1757 to 1868.

THE LIFE OF LIEUT.-GENERAL H. H. SIR PRATAP SINGH,
G.C.B., G.C.S.I., G.C.V.O., LL.D.

By

R. B. VAN WART, O.B.E., M.A.

Mr. Van Wart is to be congratulated ; he has performed what must have been a very congenial task in a most accomplished manner.

"We have seldom read a "Life" which was more readable or more "pithy."

Sir Pratap Singh was, perhaps, one of the most notable characters that India has ever produced ; his character true to the noble race from which he sprung, is intensely lovable and cannot fail to inspire one with a feeling of the greatest admiration and respect.

In entrusting his biography to Mr. Van Wart a very wise choice was made. The author was an intimate friend of Sir Pratap's, and has had a long and distinguished connection with Jodhpur. He also knows his Rajput history inside out.

His task, however, must have been no easy one, for it is understood that Sir Pratap had a habit of recording in the greatest detail the most minor details of his life, and dismissing the most momentous in a few lines. For instance, in commenting on his first visit to England, he says in regard to racing--

"I must say something about England's racing also." He begins, "Racing is a very favourite sport in England ; whenever there is a great race, hundreds of thousands of people flock to see it from great distances, and bettings are freely made upon the horses which are running."

There he abruptly ends, and this is surprising, to say the least of it, from a man who was almost born on a horse.

This story of Sir Pratap Singh begins with his birth and early life, and it is very interesting to trace the effect of his early surroundings on his after life. Even in his extreme youth, he began to display that fearless courage and contempt for danger which made him famous even amongst a race renowned for their bravery. He also, from a very early age, took a keen interest in the administration of the State, and acted with great shrewdness and acumen.

Thanks to the good counsel and vivid personalities of the British Residents with whom he came in contact in his early youth, Sir Pratap conceived the greatest liking for Europeans which he maintained throughout his life, and which was heartily reciprocated.

He first visited England in 1887, and his impressions are most interesting. He was received by Her Majesty Queen Victoria and her graciousness seems to have made a lasting impression on him.

Twice during his life he was called upon to act as Regent of Jodhpur and on both these occasions, as well as when he was Maharajah of Idar, did he discharge his duties as one would have expected of so fine a character.

Perhaps the Great War found him at his happiest. Off he went to France at the age of 69 and he had the crowning satisfaction of seeing his beloved Jodhpur Lancers, which he himself had raised many years before, win undying fame in the fields of France and Palestine.

Sir Pratap, as revealed by Mr. Van Wart, was a wonderful blend of all the best traits of a man's character ; a man of many parts, one cannot help feeling that he was really happiest when commanding his troops in battle.

We can pay no higher tribute to the Author than to say that the reader's interest was sustained the whole time ; he has performed a great service in placing on record in such delightfully readable form,

the life story of one of the most striking figures that India has ever produced. This record deserves to be widely read, and especially at this time when the question of India's providing her own officers is so much to the fore. There is much to mark, learn, and inwardly digest in the life of this illustrious soldier, administrator and gentleman.

AUSTRALIA AND BACK.

By

SIR ALAN COBHAM, K.B.E.

(*A. C. Black, Ltd., London, 1926*), 2s. 6d.

In this little volume, which is a companion to "My Flight to the Cape and Back," Sir Alan Cobham has set out to tell the story of his historic flight from England to Australia and back on the De Havilland 50 fitted with floats. The volume is, what may be called, a topical account, and is written more for the general public than with a view to furthering the knowledge of the science of aviation; presumably Sir Alan Cobham has given elsewhere the technical experience that he gained during his flight, so that others may have the benefit of his discoveries.

Probably the most interesting part of this book is the account of the pilot's experiences while flying in the monsoon; flying during this period in India appears, according to Sir Alan Cobham, perfectly feasible, a theory that can be borne out by the Royal Air Force, who have been doing it for the past 10 years. One is, however, inclined to agree with the writer when he selected a seaplane for his task. We, in India, know the devastating effect of really heavy monsoon rain on the average landing ground. In Burma, on the other hand, Sir Alan Cobham met weather which entirely prevented his flying, and on one occasion kept him prisoner in the wilds near Victoria Point for several days. This information is of special interest in view of the proposal to run a mail service between Calcutta and Rangoon, which, it is understood, is one of the projects before the Indian Air Board.

The writer gives us some very vivid pictures of the enthusiasm with which his arrival was greeted in Australia, and indeed, on more than one occasion, his machine was very nearly destroyed altogether by enormous crowds which got completely out of hand.

This one can well understand since Australia has long recognised the value of aviation to a large continent of her size, and the progress of civil aviation in that country is one of the most satisfactory chapters in the history of the British Empire's post-war aerial efforts.

Considerable stress is laid, throughout the book, on the difficulties experienced in handling the seaplane at the various stopping places, with native labour, this is always bound to be a difficulty, especially if the crew of the machine do not speak or understand the native language. It is here that the disadvantage of flying in a seaplane is potent, since tideways and other things have to be contended with.

The book is illustrated with quite a number of interesting photographs, but it is a pity that they are so badly reproduced. The account generally is interesting and written in an unconventional style and should appeal to many who may have the "wanderlust" in their veins. In writing an account of this kind, however, it is wise to avoid the personal element as far as possible; one cannot help feeling that certain of the comments made in regard to people at certain places *en route* would have been better omitted.

The flight itself was a notable one in that, it again proved the reliability and worth of an English machine and engine and also it again confirmed the feasibility of flying to Australia and back on an air route that is supplied with the necessary stocks of petrol and oil. It is worthy of note that Sir Alan Cobham used no spares during the whole of the journey other than those he carried in the machine or which were of such a minor quality that they could be improvised locally.

SECRET AND CONFIDENTIAL.

By

BRIGADIER-GENERAL W. H. H. WATERS, C.M.G., C.V.O.

(John Murray, London, 1926) 18s. net.

General Waters describes his reminiscences during a varied career in a graphic and interesting manner, and the chapters of his book contain a number of original and enlivening anecdotes.

After graduating at the Staff College, Camberley, in 1886, he went to Russia to study the language and then to India for a short

period of foreign service. On return to England he was given a staff appointment in the Intelligence Branch at the War Office, and in 1893 was sent to Russia as British Military Attaché.

Of the twenty-two chapters in the volume, seventeen deal with the author's experience in Russia. Thanks to his privileged position and his personal friendship with the Czar and many of the leading members of Russian Society, he was able to obtain inside knowledge of current events available to few. The detailed account of his journey to Central Asia in 1894 is of considerable interest though few will agree with his view about Anglo-Russian relations in Asia, which was that a coterminous frontier would be the best means of avoiding friction.

In 1897 the author made a valuable journey through Siberia to Vladivostok, and gives a graphic account of the rough and ready methods of Russian administration in the Far East provinces.

Throughout the book General Waters shows a strong sympathy for the Czarist régime, though he realises its shortcomings, and considers a restoration in the shape of a return to a monarchy to be "a dream of visionaries."

In 1899 General Waters went to the South African theatre on the staff of Sir William Gatacre. His period of service was short, however, as he was invalided Home in the spring of 1900. From 1900 to 1903 he held the appointment of British Military Attaché at Berlin. Though he says that some of that period was intensely interesting, and adds that "William II was rather fond of saying things to a military attaché—if he had confidence in him—which, if said to an ambassador, would have been necessarily official, and might sometimes have had very far-reaching consequences," the author dismisses his Berlin experiences in a few pages, and tells us nothing of real interest.

In 1904, the author retired from the Army, but on the outbreak of the Russo-Japanese War was reinstated and sent to the Far East as one of the British Officers attached to the Russian Forces. The two chapters allotted to his experiences in this campaign consist for the most part of personal anecdotes, and give us nothing new as regards the conduct of the campaign.

In 1906 General Waters was appointed to command the British Forces in North China, and retired for the second time in 1910.

His services were again made use of in the Great War, commencing in 1914 with a short period in the Press Bureau followed by the command of a reserve brigade in England until 1916, when he again went to Russia as Senior British Officer with a Military Mission. The concluding chapters of the book describe his experiences in the Russian Theatre and his views as to how the revolution might have been delayed are interesting.

The author feels that he did not receive full recognition for his services, and his criticisms of certain of his superiors might have been omitted with advantage from his book.

The volume is well written and presents a story full of interest to the general reader.

VADE MECUM.

By

MAJOR O. M. T. FROST.

(*Gale and Polden, Aldershot, 1927*) 1s. 6d.

"Vade Mecum" for Field General Courts Martial, by Major O. M. T. Frost, is a most useful little guide to Courts Martial generally and contains, in a small space, useful hints on practice.

As a guide to Field General Courts Martial, however, the pamphlet must be read in conjunction with Section 49 of the Army Act and the preface to Rule of Procedure 105. A Field General Court Martial is normally convened only when conditions exist where the saving of time or speedy trial and punishment are essential. The "counsel of perfection" of recording on a piece of "plain paper" every detail of procedure is neither necessary nor in most cases possible. If, however, the author's penultimate note on page 20 is kept in view "Vade Mecum" should prove a real help to officers dealing with Courts Martial or working for professional examinations.

THE MILITARY GENIUS OF ABRAHAM LINCOLN.

By

BRIGADIER-GENERAL COLIN R. BALLARD.

(*Oxford University Press, Bombay, 1926*) Rs. 15.

No war, before or since, (with the possible exception of the Great War) has ever succeeded in producing such a volume of printed matter as the American Civil War. Every phase, personality, and detail has been discussed again and again from

every angle. It is therefore all the more curious to find an author in 1927 taking up the cudgels on the old ground.

This review does not propose to refute or confirm the conclusions which are reached by General Ballard, as the reader has such a wealth of literature available on which he can base his own opinions, if he wishes to delve into the matter at issue. It may be permissible however to consider the book from the point of view of its military value for the military reader.

It is true that the writer explains clearly on page 231 his case that:—

“Lincoln kept a true course by strength of character and the light of sheer genius” “and no one will cavil at his final words:—

“In war men are nothing, it is the man who is everything. That is an exaggeration—there were many men who earned immortal fame, and helped to hold the Union together. But the man was Abraham Lincoln.”

But if we assume that the value of a military book lies in the guidance for the future it provides, and accepting for a moment all General Ballard's conclusions, it is tempting to ask, “What then?” No one man could ever hope to combine the duties of Civilian Head of a Government and its Military Adviser in Wartime or any other time, and it is just, this question of the best method of effecting the essential co-operation between statesman and soldier which is one of the most pressing problems of the day. As the book deals at such length with the relations between Lincoln and his Generals, it is disappointing to find no constructive lessons drawn from the story.

Looked at as a personal record of a great character, the military reader will have no more to say. If he is looking for professional sustenance, he can fairly ask where the author's conclusions lead. This is especially the case in the chapters dealing with the account of Maclellan's “over-sea” expedition and Lincoln's handling of the situation.

Field Marshal Sir William Robertson's recent book “Soldiers and Statesmen” has doubtless given many readers furiously to think, and conceivably the uninstructed or wilful reader of “The Military Genius of Abraham Lincoln” will be tempted to misinterpret the intentions of its author, who certainly utters a warning:—(p. 2).

“My belief is that Lincoln was solely responsible for the strategy of the North, and proved himself a very capable strategist. But (a very big but), this does not mean that other politicians should try to follow his example.”

In spite of this, the doubting politician may be inclined to overlook the warning, and read into the following glowing pages, his possible justification for interference with the professional in his own sphere. Why should not he be just such another, with the same unsuspected flair for strategy? All this is of course very far from the intentions of the author, but the danger is there all the same, and the very title of the book will tend to attract the politician who fancies his military opinions.

The military reader again will find it hard to agree with all that is said on the defence of General Banks' dilatory methods in the Valley. After all, his very mistakes have been of considerable value to prosperity.

One last comment must be made, and that concerns a remark made on page 145:—

“The Military Student, however, need not attempt to weigh the political effects.”

Surely the commander must learn something of the difficulties which confront the statesman, in the same way as he expects the statesman to understand his own? The context redeems the bald statement, but it is perhaps one of those things which were better left unsaid.

Apart from all the above, it can be said that “the Military Genius of Abraham Lincoln” makes the most admirable reading and gives a very clear and concise account, or rather review, of the whole war from its inception to the bitter end in April 1865. The story is accompanied throughout by excellent little sketch maps for which the armchair reader will doubtless be duly grateful.

The book therefore has a distinct value for the military student, who gets a clear picture of the whole, combined with a running commentary, and he is thus enabled to “pick his piece” for a more detailed study at leisure.

THE LAST BATTLE OF PANIPAT.

By

H. G. RAWLINSON.

(Oxford University Press, Bombay, 1926) Rs. 2.

An account of the last battle of Panipat and of the events leading up to it.

Written in Persian by Qazi Raja Pundit, who was present at the battle. Translated into English by Lieut.-Colonel James Brown of Dinapore, 1st February 1791 ; and now edited with an introduction, notes and appendices, by H.G. Rawlinson, of the Indian Educational Service, Oxford University Press. This little book tells of the last battle of Panipat, which was fought between the combined forces of the Mahratta chieftains, representing the Hindu element of India against the Muhammadan forces of the Abdalli Afghan Ahmad Shah. This latter, encouraged by the success of Nadir Shah, whom he had accompanied in his expedition, turned his attention towards India and, in 1747, occupied the province of Lahore but was driven back across the Indus.

Four years later he again invaded India and in 1756 took and sacked Delhi. However, a pestilence which broke out in his camp forced him to recross the Indus. It was at this time that the Mahratta power was becoming paramount in India. In 1759 news was received that Ahmad Shah had again crossed the Indus with a large army to recover his Indian possessions. He decisively defeated the forces of Holkar and Scindia in detail, but the news of these reverses only served to inflame the ardour of the Peshwa and his Cabinet, and it was resolved at Poona to make one grand and decisive effort to complete the conquest of India. The command of the Mahratta force was entrusted to Sudaseo Rao Bhow, commonly known as the Bhow, a cousin of the Peshwa, a general who had seen much service and was not wanting in courage and energy, but rash and impetuous, with an overwhelming conceit of his own abilities.

Every Mahratta chieftain throughout the country was summoned to attend the stirrup of the Bhow, and the whole Mahratta cavalry marched under one standard.

The army which now moved up to encounter Ahmad Shah was the largest with which the Mahrattas had ever taken the field and

consisted of 55,000 cavalry in regular pay, 15,000 predatory horse and 15,000 infantry. The Afghan army numbered about 80,000. The two armies met on the 7th January, or as the Mahratta records have it, the 14th January, on the field of Panipat.

The Moghal throne may be said to have come to an end with this battle.

Students of Military History will find much of interest in this book. Examples will be found of what mounted troops are capable of, for example, the Afghan Pasano Khan with a mounted force, rode nearly a hundred miles in twenty-four hours when he surprised Holkar and Attai Khan performed an almost equally memorable feat when he caught Govind Pant Bundelee.

No better examples could be found of the dire results of failing to observe the principle of the "maintenance of the objective" than the fact that the Bhow was compelled to attack the Afghans before the arrival of the Grand Army of the Deccan, as the women and non-combatants of his force which should have been left at Delhi, had exhausted the ample granaries of Panipat which would otherwise have kept the force well supplied. And then he allowed the Abdali to cross the Jamna at Bhagpat, because the Mahrattas, whose love of plunder was proverbial, were so absorbed in ransacking Kunspur that they allowed the enemy to slip out of sight.

A good map and some valuable appendices enhance the value of the book from a military point of view.

THE TWILIGHT OF THE WHITE RACES.

By

MAURICE MURET.

(*T. Fisher Unwin, Ltd., London, 1926*) 10s. 6d.

In "The Twilight of the White Races" M. Muret urges the European countries to forget the differences and pull together in view of the common question of the destiny of their race.

He sees in the Russian revolution a popular revolt of a semi-Eastern country against Western civilization, and in Bolshevism the most serious menace to that civilization.

The leaders of Bolshevism are aiming at Europe through the East.

It is devoutly hoped that the growing interest taken in this subject will avert the danger and pave the way to a peaceful and sympathetic understanding between East and West so that, eventually each may be free to fulfil its own genesis without being torn by the conflicting ideals of the other—for “East is East, and West is West.”

The chapter, “The Red Flag at Peking” is most instructive in view of the present situation in the Far East.

The author asks some pregnant questions as to the future of China—questions mostly of study.

This is a book which should be widely read as it gives serious food for thought.

“NOTES FOR SECTION COMMANDERS.”

By

LIEUT. J. JEFFERSON, WELSH GUARDS.

(Messrs. Gale & Polden, Ltd., Aldershot, 1927) 9d.

Anything in connection with the training of infantry Non-Commissioned Officers which emanates from the Brigade of Guards merits attention, and one would be surprised if a book connected with this subject written by a Guards officer in charge of the training of section leaders, and used in his battalion, was anything but practical and useful. The little book under review is no exception.

Every officer has encountered the problem of “Note taking” during lectures and knows it is a process which occupies much time, is apt to interfere with listening, and demands a good deal of practice before the notes taken are of real use afterwards.

The author aims at overcoming this difficulty by giving the young N.-C. O. a ready made note-book, based on the lectures given him, which he can use as a reminder afterwards ; being of pocket size he can also use it as an *aide-memoire* during field training.

The notes refer to Fire control and Section leading in the field. For a book of this nature it is refreshingly free from those petty “jims” and “fads” which peace training is so apt to develop.

The lectures are well arranged in the same order as the Chapter in “Section Leading in Attack and Defence,” necessary additions from Infantry Training, Vol. II, 1926, being added in their appropriate place.

The idea of the "ready made note-book" appears sound and helpful, and the book is an excellent sample well worthy of perusal.

Obviously such aids to training must be used circumspectly as no doubt the author intends, and precautions will be necessary to ensure that the young N.-C. O. does not use his notes as a substitute for "Section leading in Attack and Defence" which is specially written for his benefit. Moreover, short notes can never be "fool proof" against misinterpretation, and this fact must be guarded against.

To quote one or two instances from the book under review—"Fire over 600 yards must be controlled" could be interpreted by an unintelligent man to mean that "Fire under 600 yards should never be controlled." Similarly, in attack, "Lewis guns should never get closer than 400 yards provided they can see the target" might prevent a section leader from getting forward when he ought to. Again, in defence, "A well concealed Lewis gun with a short field of fire to the front will survive longer than one with a wide field" is no doubt true, but is hardly feasible in a platoon locality intended for all round defence, or for the mutual support of a neighbouring platoon.

For this reason, the ready made note-book, good idea as it is, might be improved if, firstly, a preface were inserted to the effect that the notes should be used in conjunction with the sections in "Infantry Training," Volume II, and "Section Leading in Attack and Defence," to which they refer, and must not be regarded as a substitute for them; and, secondly, if the numbers of the section and paragraphs of these manuals is entered against each note, thus assisting the young N.-C. O. to use his notes intelligently in conjunction with his books, and at the same time ensuring that the note-book itself is kept free of anything which is unsupported by the authority of the manuals themselves.

Though intended for the N.-C. O., the book should prove useful to young officers of both British and Indian units to help them prepare their own lecture notes from the training manuals, and to arrange their syllabus of instruction.

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To his widow	Rs. 8,775	to	Rs. 12,375
For each child	„ 750	to „	1,125

Payments are made immediately on receipt of report of death, irrespective of death occurring in or out of India.

The sum paid to the widow varies with subscription and the sum for each child varies with age of child. Subscriptions are based on the rank of the officer.

Benefits are payable whether the deceased officer's family is residing in India or not.

It is to the advantage of an officer to join the Fund on his first tour of service in India, as otherwise, on joining it in a subsequent tour he would have to pay subscriptions for any previous tours in the country as a married officer, but not in excess of 4 years.

The Fund (late Queen's Military Widows' Fund) was established in 1820, to assist families of British Service (Army) officers dying in India, and mainly to enable them to return Home without delay.

The Fund is controlled by a Committee consisting of and elected by subscribing officers serving at Army Headquarters, Simla.

For admission and rules apply to :—

The Secretary,

MILITARY WIDOWS' FUND,

Army Headquarters, Simla.

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 The General Officer Commanding-in-Chief, Northern Command.
 The General Officer Commanding-in-Chief, Southern Command.
 The General Officer Commanding-in-Chief, Eastern Command.
 The General Officer Commanding-in-Chief, Western Command.

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Ex-officio Members.

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| 2. The Adjutant-General in India. | 9. The Engineer in-Chief. |
| 3. The Air Vice-Marshal, Commanding R. A. F. in India. | 10. The Military Secretary. |
| 4. The Secretary, Army Department | 11. The Director, Medical Services. |
| 5. Sir Denys BRAY, K.C.I.E., C.S.I., C.B.E. | 12. The Director, Royal Indian Marine. |
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| 7. The Quartermaster-General in India. | |

Elected Members.

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Elected Members.

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| 3. Colonel M. Saunders, D.S.O. | 6. Major H. I. Allen, D.S.O. |
| | 7. Squadron Leader E. J. Hodsoll. |

Additional Members.

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1. The United Service Institution of India is situated at Simla.
2. Officers wishing to become members of the United Service Institution of India should apply to the Secretary. The rules of membership are printed inside front cover.
3. The Reading Room of the Institution is provided with all the leading illustrated papers, newspapers, magazines, and journals of military interest that are published.
4. There is a well-stocked library in the Institution, from which members can obtain books on loan free. Books are sent out to members V.-P. for the postage.
5. The Institution publishes a Quarterly Journal in the months of January, April, July and October which is issued postage free to members in any part of the world.

6. Members and the public are invited to contribute articles to the Journal of the Institution for which honoraria will be awarded by the Executive Committee. Rules for the guidance of contributors will be found in para. IV, Secretary's Notes.

7. Members are responsible that they keep the Secretary carefully posted with regard to changes of address.

8. When temporarily in the U. K. Officers of the Indian Army can join the Royal United Service Institution, Whitehall, for a period of six months on payment of half a guinea, or for a period of one year on payment of a guinea.

SALE OF PERIODICALS.

This Institution offers the following periodicals to members on sale for twelve months—1st January to 31st December 1928. The papers will be sold to the members submitting the highest bids by the 31st December 1927. Each issue of the periodicals will be sent to the purchaser as soon as the next issue arrives in Simla. In the case of purchasers in Simla, delivery will be free, otherwise postage will be charged.

Title.	Published.	Cost per copy new.	
		s.	d.
1. The Review of Reviews ..	Monthly	.. 1	0
2. The Cavalry Journal ..	Quarterly	.. 5	0
3. The Asiatic Review ..	"	.. 5	0
4. The Royal Engineer's Journal ..	"	.. 5	0
5. The Fighting Forces ..	"	.. 5	0
6. The British Empire Review ..	Monthly	.. 0	6
7. The Nineteenth Century and After ..	"	.. 3	0
8. The Navy ..	"	.. 0	6
9. The Empire Review ..	"	.. 2	0
10. The Geographical Journal ..	"	.. 2	0
11. The United Empire ..	"	.. 1	0
12. The Journal of the R. A. M. C. ..	"	.. 2	0
13. Blackwood's Magazine ..	"	.. 2	6
14. The Aeroplane ..	Weekly	.. 0	6
15. Journal of the Royal Artillery ..	Quarterly	.. 5	0
16. Monthly Notices of the Royal Astronomical Society ..	Monthly	.. 4	0
17. The Royal Army Service Corps ..	Quarterly	.. 2	6
18. The Export and Commercial Intelligence World ..	Monthly	.. 1	0
19. The World's Health ..	"	.. 0	6
20. The Times' Weekly Illustrated ..	Weekly	.. 0	4
		\$	C.
21. The Canadian Defence Quarterly ..	Quarterly	.. 1	50

American Publications.

Title.	Published.	Cost per copy new.	
		Cents.	
1. The National Geographical Magazine ..	Monthly	..	50
2. Coast Artillery Journal ..	"	..	50
5. The Infantry Journal ..	"	..	50
4. Journal of the Franklin Institute ..	"	..	60
5. The Army and Navy Journal ..	Weekly	..	20
6. The Cavalry Journal ..	Quarterly	..	65
		\$	O.
7. Foreign Affairs ..	"	..	1 25

Other Foreign Publications.

Title.	Published.
1. Revue Militaire Suisse ..	Monthly.
2. L'Afrique Francaise ..	"
3. Bulletin Belge des sciences Militaires ..	"
4. Alere Flamman ..	"
5. Memorial de Artilleria (Spanish). ..	"
6. Miffen Und Mehr ..	"
7. Rivista di Artiglieria E Genio ..	"

Illustrated Publications.

Title.	Published.	Cost per copy new.	
			Rs.
1. The Tatler ..	Weekly	..	1
2. The Sketch ..	"	..	1
3. The Bystander ..	"	..	1
4. Eve—The Lady's Pictorial ..	"	..	1
5. The Illustrated Sporting and Dramatic News. ..	"	..	1

United Service Institution of India.

OCTOBER. 1927.

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I.—New Members.

The following new members joined the Institution from 1st June to 31st August 1927 :—

LIFE MEMBER.

Captain R. P. L. Ranking.

ORDINARY MEMBERS.

Lieut. J. R. Waters.
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 Captain R. I. Maxwell.
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 Captain C. B. Evans.
 Captain T. Scott.
 J. D. V. Hodge, Esq.
 Lieut. J. B. P. Angwin.
 Lieut. A. E. Armitage.
 Flight Lieut. C. A. Stevens.
 Flight Lieut. C. R. Davidson.
 2nd-Lieut. G. C. Drake-Brockman.
 Captain A. G. S. Muntz.
 Lieut. H. A. Ingledew.
 J. B. G. Smith, Esq.
 Captain R. P. Waller.
 Lieut.-Col. A. A. G. Duke.
 Lieut.-Col. L. H. Smith.
 Captain B. Pennefather-Evans.
 Captain R. G. Leonard.
 Captain R. H. Wordsworth.
 Captain M. R. Roberts.
 Major-General A. Solly-Flood.
 Major A. G. Ogilvy.
 Captain H. J. M. Howard.

II.—Examinations.

(a) The following table shows the campaigns on which the military history papers will be set from March, 1928, for lieutenants for promotion to captain in sub-head (b) (iii) and for captains for promotion to major in sub-head (d) (iii) :—

Serial No.	1	2	3	4	5
		Date of examination.	Campaign set for the first time.	Campaign set for the second time.	Campaign set for the last time.
1	March, 1928 ..	Waterloo, 1815 (from the landing of Napoleon in France, 1st March to the conclusion of operations at Waterloo).	..	Mesopotamia, 1916-17 (as detailed in Army Order 339 of 1925, as amended by Army Order 168 of 1926).	
2	October, 1928 ..	Palestine, 1917-18 (from Genl. Allenby's assumption of command, 28th June, 1917, to the conclusion of operations, 31st October, 1918), covered by despatches, dated 16th December, 1917, 18th September and 31st October, 1918, and 28th June, 1919.	Waterloo, 1815 (as given in Serial 1, column 3).	..	
3	March, 1929 ..	..	Palestine, 1917-18 (as given in serial 2, column 3).	Waterloo, 1815 (as given in serial 1, column 3).
4	October, 1929 ..	To be notified later.	..	Palestine, 1917-18 (as given in serial 2, column 3).	

NOTE.—With regard to Army Order 363 of 1926, the above campaigns will not be divided into general and special periods.

(b) Books on military history and languages with dictionaries are available in the Library. The following list of books may be found useful for reference by officers studying for Promotion Examinations or entrance to the Staff College :—

(The list of books presented and purchased as shown in the Journal should also be consulted).

MILITARY HISTORY.

1. *The Campaign of the British Army in France and Belgium up to 20th November, 1914.*

A.—OFFICIAL HISTORY OF THE WAR.

Military Operations, France and Belgium, Vol. I (to October, 1914).

Military Operations, France and Belgium, Vol. II (to 20th November, 1914).

Sir John French's Despatches.

B.—OTHER BOOKS.

40 days in 1914 (General Maurice, new edition).

1914 (Viscount French).

My War Memories (Ludendorff).

General Headquarters, 1914-16, and its Critical Decisions (Falkenhayn).

The March on Paris, 1914 (Von Kluck).

Ypres, 1914. (An official account) (German General Staff).

Oxford Pamphlets, August 1914. The Coming of the War. (Spencer Wilkinson).

Oxford Pamphlets, August 1914, Nos. VII and X.

Times Documentary History of the War, Vol. V, Military, Part I.

Times Documentary History of the War, Vol. VIII, Part III.

Der Grobe Krieg : Die Schlacht bei Mons (German General Staff).

Der Grobe Krieg : Die Schlacht bei Longwy (German General Staff).

Story of the Fourth Army (Montgomery).

2. *The Palestine Campaign.*

A.—OFFICIAL ACCOUNTS.

A Brief Record of the Advance of the Egyptian Expeditionary Force, 1919.

The Australian Imperial Force in Sinai and Palestine (H. S. Gullett).

The New Zealanders in Sinai and Palestine (Lieut.-Col. C. G. Powels).

B.—OTHER BOOKS.

Soldiers and Statesmen (Field-Marshal Sir W. Robertson).

The Revolt in the Desert (T. E. Lawrence).

Allenby's Final Triumph (W. T. Massey).

How Jerusalem was Won (W. T. Massey).

Outline of the Egyptian and Palestine Campaigns, 1914-18 (Bowman-Manifold).

L'Attaque du Canal de Suez (Douin).

Secretary's Notes.

v

Army Quarterly—October 1920 (T. E. Lawrence's article).

Army Quarterly—January 1922 (Lieut.-Colonel Wavell and C. T. Atkinson's articles).

Cavalry Journal—October 1921 (Lieut.-Colonel Rex Osborne's article).

Cavalry Journal—July 1923 (Lieut.-Colonel Beston's article).

R. U. S. I. Journal—May 1922 (Colonel-Commandant Weir's article).

U. S. I. Journal—October 1923 (Captain Channer's article).

3.—*The Dardanelles Campaign.*

Description.

- Naval and Military Despatches .. A clear account of the operations in detail from the G. H. Q. standpoint.
- Reports of the Dardanelles Commission .. Fixes responsibility for the inception and conduct of the campaign. An interesting study in the relationship between Politicians and Naval and Military Experts.
- The Dardanelles (Callwell) .. The best account and criticism of the strategic conduct of the campaign.
- Gallipoli Diary (Sir I. Hamilton) .. The campaign from the point of view of the C.-in-C. on the spot.
- Life of Lord Kitchener (Arthur) .. Throws considerable light on Lord Kitchener's direction of the campaign.
- The Dardanelles Campaign }
(Nevinson.) } Well written and picturesque
Gallipoli (Masefield) } accounts by eye-witnesses.
- The World Crisis (Winston Churchill.) Explains his part in inception of the campaign.
- Soldiers and Statesmen (Field-Marshal Sir W. Robertson.) From point of view of the C. I. G. S.
- Five years in Turkey (Liman Van Sanders).
- Official Account: Official History of the War, Naval Operations, Vols. II and III.
- Gallipoli Campaign (Outline of Military Operations). By a Student.
- Experiences of a Dugout (Callwell).
- Despatches from the Dardanelles (Ian Hamilton).
- The Navy in the Dardanelles Campaign (Wemyss).

NOTE:—For a fuller list of authorities, see Appendix 1 to Callwell's "The Dardanelles."

4.—The Mesopotamia Campaign.

The Campaign in Mesopotamia, 1914-18 (Evans).

Official History of the Campaign in Mesopotamia, Vol. IV
(F. J. Moberly).

Critical Study of the Campaign in Mesopotamia up to April,
1917.

Soldiers and Statesmen (Field-Marshal Sir W. Robertson).

The World Crisis (Winston Churchill).

Notes and Lectures on the Campaign in Mesopotamia
(A. Kearsey).

5.—Waterloo Campaign.

Waterloo Campaign (J. H. Anderson).

Waterloo (Hilaire Belloc).

Wellington and Waterloo (Arthur Griffiths).

Waterloo the Downfall of the first Napoleon (George Hooper).

Campaign of 1815 (W. H. James).

With Napoleon at Waterloo (E. B. Low).

Campaign of 1815, Ligny : Quatre-Bras : Waterloo (W.
O'Connor Morris).

Waterloo Campaign (S. C. Pratt).

Wellington and Waterloo (G. W. Redway).

Wellington Campaigns. Peninsula-Waterloo, 1808-1815, also
Moore's.

Campaign of Corunna (C. W. Robinson).

6.—The American Civil War.

Stonewall Jackson and the American Civil War (G. F. R.
Henderson).

History of the Civil War in the United States, 1861-65 (W. B.
Wood and J. E. Edmonds).

History of the Campaign of Gen. T. J. (Stonewall) Jackson
in the Shenandoah Valley of Virginia (William Allen).

American Civil War (J. H. Anderson).

The 1st American Civil War, 1775-78 (Henry Belcher).

The American Civil War, 1861-64 (John Formby).

History of the American Civil War (J. W. Draper).

Fredericksburg and Chancellorsville (J. E. Gough).

Battles and Leaders of the Civil War (Johnson and Buel).

War of Secession, 1861-62 (G. W. Redway).

7.—*The East Prussian Campaign.*

Tannenberg—First 30 days in East Prussia (Edmond Ironside).

8.—*The Russo-Japanese War, 1904, up to and including the Battle of Liao-Yang.*

A Staff Officer's Scrapbook (Ian Hamilton).

German Official Account.

Lectures on the Strategy of the Russo-Japanese War (Bird).

Question on the Russo-Japanese War (Brunker).

Official Account: The Russo-Japanese War (Naval and Military),
3 Vols., published by Committee of Imperial Defence.

Outline of the Russo-Japanese War (Ross).

A Study of the Russo-Japanese War (Chasseur).

My Experiences at Nan Shan and Port Arthur (Tretyakow).

Outline History of the Russo-Japanese War, 1904, upto the
Battle of Liao-Yang, with Questions and Answers (P. W.).

A short account of the Russo-Japanese War ("Footslogger").

An account of the Battle of Liao-Yang (with questions and 10
maps for examination purposes) (Bird).

9.—*Organization of Army since 1868.*

A.—ORGANIZATION OF ARMY SINCE 1868.

History of British Army, by Fortescue, Vols. I to XI.

Outline of the Development of British Army, by Major-Genl. Sir
W. H. Anderson.

Our Fighting Services, by Sir Evelyn Wood.

B.—FORCES OF THE EMPIRE.

* Notes on the land forces of the British Dominions, Colonies,
Protectorates and Mandated Territories, 1925.

The Statesman's Year Book.

Army List.

Articles in Newspapers and Magazines, viz., R. U. S. I.

Army Quarterly, Journal of the U. S. I. of India, etc.

10.—*Development and Constitution of the British Empire.*

A.—THE BRITISH EMPIRE.

Encyclopædia Britannica—(contains much concentrated information).

The Statesman's Year Book.

Whitaker's Almanack.

* Particularly recommended by the C. I. G. S. for all officers to read.

The Colonial Office List.

The Government of the British Empire (Jenks, 1923).

The Foundation and Growth of the British Empire (J. A. Williamson, 1918).

The Beginnings of English Overseas Enterprise (Sir C. P. Lucas, 1917).

The British Empire Series. (XII volumes).

The Government of England (L. A. Lowell, 1912).

The Expansion of the British Empire (W. H. Woodward, 1921 and 1924 edition).

Overseas Britain (E. F. Knight, 1907).

The Origin and Growth of the English Colonies and of Their System of Government (H. E. Egerton, 1903).

A Short History of Politics (Jenks, 1900).

The English Constitution (Bagehot, 1909).

The Expansion of England (Sir J. Seely, 1883).

Introduction of the Study of the Law of the Constitution (A. V. Dicey, 1908).

England in the Seven Years' War (Sir J. Corbett, 1907).

Selected Speeches and Documents on British Colonial Policy, 2 Vols. (A. B. Keith, 1918).

B.—BOOKS ON SPECIAL PORTIONS OF THE EMPIRE OR WORLD.

The Rise and Expansion of British Dominions in India (Sir A. C. Lyall, 1894).

A Brief History of the Indian Peoples (Sir W. H. Hunter, 1907).

The Nearer East (Hogarth, 1902).

Modern Egypt (Cromer, 1908).

Egypt and the Army (Elgood, 1924).

The History of Canada (W. L. Grant).

Nova Scotia (B. Wilson, 1911).

Report on British North America (Sir C. P. Lucas).

The Union of South Africa (R. H. Brand, 1909).

Short History of Australia (E. Scot).

History of the Australasian Colonies (Jenks, 1912).

The English in the West Indies (J. A. Froude, 1888).

The Lost Possessions of England (W. F. Lord, 1896).

11.—*Military Geography.*

Naval and Military Geography of the British Empire (Dr. Vaughan Cornish, 1916).

Imperial Military Geography (Capt. D. H. Cole, 1926).

Introduction of Military Geography (Col. E. S. May).

Imperial Defence (Col. E. S. May).

Main Feature of the Japanese and other Pacific Problems.

(Reprinted from *Morning Post*. Sifton Præd).

Britain and the British Seas (H. J. Makinder, 1907).

Military Geography (Macguire).

Imperial Strategy (Repington).

War and the Empire (H. Foster).

Historical Geography of British Colonies (Dominions), 7 Vols.

(Sir C. P. Lucas, 1906-17)—

Vol. 1, Mediterranean.

Vol. 2, West Indies.

Vol. 3, West Africa.

Vol. 4, South Africa.

Vol. 5, Canada.

Vol. 6, Australia.

Vol. 7, India.

The Influence of Sea Power on History (A. T. Mahan, 1890).

Historical Geography of the British Empire (Hereford George).

The Mastery of the Pacific (A. R. Colquhoun, 1902).

Frontiers (C. B. Fawcett, 1918).

12. *Foreign Armies.*

OFFICIAL.

* Handbook of the United States Army, 1924.

* Handbook of the Army of the Netherlands, 1922.

* Handbook of the French Army, 1925.

13. *Tactical.*

Common mistakes in the solution of tactical problems and how to avoid them (Lieut.-Colonel A. B. Beauman, 1926).

Historical illustrations to Field Service Regulations, Vol. II (Major E. G. Eady, 1926).

Elementary tactics or the art of war, British School (Major R. P. Pakenham-Walsh, 1926).

III.—Payment for Articles in the Journals.

Articles accepted for publication in the Journal are paid for, and a sum of approximately Rs. 500 is awarded for articles and reviews published in each Quarterly Journal.

*NOT to be removed from the library.

IV.—Contributions to the Journal.

Articles submitted for publication must be typed in *duplicate*. With reference to Regulations for the Army in India, paragraph 204 and King's Regulations, paragraph 509, action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee.

Instructions for the preparation of drawings and plans for reproduction by lithography.

These should be in *jet* black. No washes or ribands of colour should on any account be used.

If it is absolutely necessary to use colour (and these are only permissible in line work or names) the following will reproduce photographically, *i. e.* :—

Dark red, dark orange, dark green. No other colour should on any account be used.

V.—Library Rules.

1. The Library is only open to members and honorary members of the United Service Institution of India. Members are requested to look upon books as not transferable to their friends.

2. No book shall be taken from the Library without making the necessary entry in the register. Members residing permanently or temporarily in Simla are requested to enter their addresses.

3. The United Service Institution of India is open all the year round—including Sundays—from 9 A.M. until sunset. Books may be taken out at any time provided Rule 2 is complied with.

4. A member shall not be allowed, at one time, more than three books or sets of books.

5. Papers, magazines, "works of reference" or books marked "Not to be taken away," or noted as "Confidential" may not be removed.

6. No particular limit is set as to the number of days for which a member in Simla may keep a book, the Council being desirous of making the library as useful as possible to members; but if after the expiration of a fortnight from date of issue it is required by any other member it will be re-called.

7. Applications for books from members at out-stations are dealt with as early as possible, and books are despatched per Registered V. P. P. They must be returned carefully packed per Registered Parcel Post within one month of date of issue.

8. If a book is not returned at the end of one month, it must be paid for without the option of return, if so required by the Executive Committee.

9. Lost and defaced books shall be replaced at the cost of the member to whom they were issued. In the case of lost books which are out of print the value shall be fixed by the Executive Committee, and the amount, when received, spent in the purchase of a new book.

10. The issue of a book under these rules to any member implies the latter's compliance with the rules, and the willingness to have them enforced, if necessary, against him.

11. A list of all books presented and purchased, and also a list of books useful to members studying for the Staff College and Promotion Examinations, will be found under Secretary's Notes in the quarterly issue of the U. S. I. Journal.

12. Members are invited to contribute presents of books, maps, and photographs of naval and military interest. These may be addressed to the Secretary, U. S. I. of India, Simla. They will be duly acknowledged.

VI.—Library Catalogue.

The catalogue is completed to 31st March 1924. Price Rs. 3-8-0 or postage paid Rs. 3-14-0. An addendum completed up to 30th September 1927 is now available.

VII.—Army List Pages.

The U. S. I. is prepared to supply members and units with manuscript or type-written copies of Indian Army List pages, at the rate of Rs. 2 per manuscript or type-written page.

VIII.—

BOOKS PRESENTED.

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. List of the Officers of the Bengal Army 1758-1834. (Presented by the Oxford University Press, Bombay.)	1926	V. C. P. Hodson.
2. Notes for Section Commanders, 2nd edition. (Presented by Messrs. Gale and Polden Ltd., Aldershot.)	1927	Lt. J. Jefferson.

	<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
3.	The History of the 2/6th Lancashire Fusiliers.	1927	Capt. C. H. Potter and A. S. C. Fothergill.
4.	The Regimental History of the 2/19th Hyderabad Regiment.	1927	Lt.-Col. J. de I. Conroy.
5.	Report on Combined Naval and Military Exercise 7th to 9th December 1926, Southern Command.	1927	Official.
6.	The 14th Punjab Regiment "The Year Book".	1927	..
7.	A Famous Indian Regiment "The Kali Panchwin" 2/5th (Formerly the 105th) Mahratta Light Infantry, 1768-1923.	1926	Late Lt.-Col. Sir R. Hennell.
8.	Official History of the Mesopotamia Campaign, 1914-18, Vol. IV. (Presented by H. M. Stationery Office, London.)	1927	Brigadier General F. J. Moberly.
9.	Routes in the Poona District .. (Presented by the General Staff, India.)	1927	Official.
10.	Catalogue of Khaska Darbar Records. Vol. II. (Presented by the Superintendent Government Printing, Lahore.)	1927	Sita Ram Kohill.
11.	Annual Report of the Smithsonian Institute, 1925. (Presented by the Institution, Washington.)	1927	C. D. Wallcott.
12.	The Remaking of Modern Armies (Presented by John Murray, London.)	1927	Col. B. H. Liddell Hart.
13.	The 47th Sikhs War History, 1914-18. (Presented by the Regiment 10/11th Sikhs, Nowshera.)	1927	..
14.	Examination for Admission to the Staff College, Camberly and Quetta February to March, 1927. (Presented by the War Office.)	1927	Official.
15.	Conquest of the Air .. (Presented by the Oxford University Press, Bombay.)	1927	C. L. M. Brown.
16.	Tibet Past and Present ..	1927	Sir C. Bell.

BOOKS PURCHASED.

<i>Title.</i>	<i>Published.</i>	<i>Author.</i>
1. The Study of War for Statesmen and Citizens.	1927	Maj.-Genl. Sir G. Aston.
2. The Complete Lawn Tennis Player	1921	A. Wallis-Myers.
3. Deeds of Valour by Indian Officers and Soldiers, 1860-1925.	1927	P. P. Hypher.
4. The Great Delusion ..	1927	Neon.
5. Land, Sea and Air ..	1927	Admiral Mark Kerr.
6. Air Facts and Problems ..	1927	Brigadier-General Lord Thompson.
7. The World Crisis, 1916-18, Parts I and II.	1927	Sir Winston S. Churchill.
8. The War Office List, 1927. Administrative Directory for the British Army.		
9. Leaves from a Viceroy's Note Book.	1926	Lord Curzon.
10. The Chinese Army as a Military Force.	1926	Lawrence Impey.
11. The Statesman's Year Book ..	1927	M. Epstein.
12. With the Judeans in the Palestine Campaign.	1922	Lt.-Colonel J. H. Patterson.
13. The Russian Revolution, 1917-1926.	1927	Lancelot Lawton.
14. India. The Nations of To-day	1923	Virney Lovett and John Buchan.
15. Economics for the General Reader.	1926	Henry Clay.
16. The Defence of Piedmont, 1742-1748.	1927	Spencer Wilkinson.

BOOKS ON ORDER.

1. The Staff and the Staff College History.	..	Major A. R. Godwin Austin.
2. Memoirs of the Last Phases of the Great War.	..	Prince Max of Baden.
3. The Great Pyramid ..	..	Davidson Mice.
4. Moltke ..	..	Lt.-Col. F. E. Whitton.
5. Pegasus ..	..	Colonel J. F. C. Fuller.
6. The Truth about Jutland ..	..	Admiral Harper.
7. The Indecisiveness of Modern War and other Essays.	..	J. Holland-Rose.
8. On Economics ..	..	A. G. Chapman.
9. The Money Market ..	..	Hartley Withers.

IX.—Pamphlets.

The following may be obtained by V.-P. P., plus postage, on application to the Secretary :—

- (a) British and Indian Road Space Tables (separately). As. 12 each.
- (b) Diagram of Ammunition Supply (India). As. 4.
- (c) Diagram showing new system of maintenance in the field at Home. As. 8.
- (d) Military Law Paper, questions and answers. As. 4. (As used at the A. H. Q. Staff College Course, 1926).

X.—Schemes.

The schemes in the Institution have been considerably increased and in order to simplify their issue they have been classified and numbered as follows :—

They can all be obtained by V.-P. P. plus postage, on application to the Secretary.

- (A) *Administrative Exercise* (with diagram) .. Rs. 2.
 To illustrate the supply system of a Division.
 Suitable for Staff College or promotion.
- (B) *Mountain Warfare* Rs. 5 each.
 - (i) Three lectures on Mountain Warfare.
 - (ii) A scheme complete with Map and Solution.
- (C) *New Staff College Series* (1926) Rs. 5 each.
 Each of these schemes is complete with map, solution and reasons. Each scheme contains three situations.
 - (i) Approach March.
 Reconnaissance of night attack.
 Orders for night attack.
 - (ii) Outposts.
 Defence.
 Action of a Force retiring.
 - (iii) Move by M. T.
 Occupation of a defensive position.
 Counter-attack.
 - (iv) Tactical Exercise without troops.
 Reconnaissance for attack.
 Attack orders.

(D) Promotion Series Rs. 5 each.

Each of these schemes is complete with map and solution.

Lieutenant to Captain—

(i) Mountain Warfare.

(ii) Defence.

Attack orders.

Captain to Major—

(i) Outpost.

Defensive position.

Withdrawal.

(ii) Tactical Exercise without troops.

Reconnaissance.

Attack orders.

(E) Staff College Course Schemes (1926).

(i) A set of three schemes, as given at the A. H. Q. Staff College Course, 1926, complete with map and solutions. *Complete set Rs. 6.*

A limited number of the following papers are available :—

(ii) Tactical Exercise without troops (with map and solution) Rs. 3-8.

(iii) Outpost problem (with map and solution) .. Rs. 3

(iv) Rearguard scheme (with map and solution) .. Rs. 3.

(v) Organisation and Administration paper (with solution) Rs. 2.

(F) Staff College Course Schemes (1927).

(i) A set of the schemes, as given at the A. H. Q. Staff College Course, 1927, complete with map and solutions, complete set Rs. 9/-

A limited number of the following papers are available :—

(ii) Organization and Administration—Peace (with notes for replies) As. 12 each.

(iii) Organization and Administration—War (with notes for answers) " 12 "

(iv) Two lectures on the action of the B. E. F. up to, and including, the Aisne (with maps) " 12 "

(v) Two lectures on the Great War—Western Front " 12 "

(vi) The 1796 Campaign—Full precis " 12 "

(vii) A lecture on the Great War—The Dardanelles " 8 "

(viii) A lecture on the Great War—Palestine " 8 "

(ix) A lecture on the Great War—Mesopotamia " 8 "

(x) A lecture on R. A. F. Co-operation with the Army " 8 "

(xi) A lecture on Cavalry " 8 "

(xii) A lecture on Supplies in War " 8 "

(xiii) A lecture on Tanks and Armoured Cars " 8 "

(xiv) A lecture on Organization of the Indian Army " 8 "

(xv) A lecture on Medical Organization in Peace " 8 "

(G) Copies of the recent (February 1927) Staff College Examination papers are available :—

Training for war papers (with maps)	..	..	Rs. 3 each.
Other papers	..	..	Re. 1 ..

(H) Course of five lectures given at the London School of Economics, 1925, on "Transportation in War" .. As. 12 each.

Efforts are being made to compete with demands for tactical schemes from officers working for the Staff College and Promotion Examinations by introducing as many new schemes as possible.

It is obviously impossible for the Secretary to undertake the correction of individual solutions, but all the recent schemes include a suggested solution in the form in which it is considered that the paper should have been answered with reasons for the solution given.

Officers are recommended to work all their schemes against time and to get into the habit of the methodical allotment of time to the various questions asked.

XI.—Gold Medal Prize Essay Competition.

1927.

The Council has made the following awards in this year's competition :—

Major D. Mc. A. Hogg, M. C., R. E.	Gold Medal and Rs. 50.
Captain J. G. O. Whitehead, M. C., R. E.	Rs. 50.
Lieut.-Col. J. C. Dundas, D. S. O., R. T. C.	Rs. 50.

1928.

The Council has chosen the following subjects for the Gold Medal Essay for 1928 :—

- (i) In view of the number of weapons which the Indian soldier has to be taught in the short period of his colour service, how do you consider that our existing system of training could be simplified so as to retain what is essential to his efficiency and cut out everything which is unnecessary
or

- (ii) The stopping power of modern small arms weapons, combined with the increasing difficulty of obtaining draught animals are leading to progressive mechanisation in the Army at Home.

Bearing in mind the tasks the Army in India may have to carry out in war, both in the defence of her frontiers, internal security, and the possible provision of an expeditionary force for service in an Eastern theatre, consider the necessity for increased mechanisation of the Army in

India and suggest the directions in which it can most profitably be employed with due regard to economy.

The following are the conditions of the competition :—

1. The competition is open to all gazetted officers of the Civil Administration, the Royal Navy, Army and Royal Air Force or Auxiliary Forces, who are members of the U. S. I. of India.
2. Essays must be printed or type-written and submitted in triplicate.
3. When a reference is made to any work, the title of such work is to be quoted.
4. Essays are to be strictly anonymous. Each must have a motto and, enclosed with the essay, there should be sent a sealed envelope with the motto written on the outside and the name of the competitor inside.
5. Essays will not be accepted unless received by the Secretary on or before the 30th June 1928.
6. Essays will be submitted for adjudication to the three Judges chosen by the Council. The Judges may recommend a money award, not exceeding Rs. 150, either in addition to or in substitution of the medal. The decisions of the three Judges will be submitted to the Council, who will decide whether the medal is to be awarded and whether the essay is to be published.
7. The name of the successful candidate will be announced at a Council Meeting to be held in September or October 1928.
8. All essays submitted are to become the property of the United Service Institution of India absolutely and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.
9. Essays should not exceed 15 pages of the size and style of the Journal exclusive of any appendices, tables or maps.

SIMLA,
1st October 1927.)

By order of the Council,
J. G. SMYTH, CAPTAIN,
Secretary, United Service Institution of India.

Prize Essay Gold Medalists.*(With rank of Officers at the date of the Essay.)*

- 1872..ROBERTS, Lieut.-Col. F. S., v.c., c.b., r.a.
 1873..COLQUHOUN, Capt. J. S., r.a.
 1874..COLQUHOUN, Capt. J. S., r.a.
 1879..ST. JOHN, Maj. O.B.C., r.e.
 1880..BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882..MASON, Lieut. A. H., r.e.
 1883..COLLEN, Maj. E. H. H., s.c.
 1884..BARROW, Capt. E. G., 7th Bengal Infantry.
 1887..YATE, Lieut. A. C., 27th Baluch Infantry.
 1888..MAUDE, Capt. F. N., r.e.
 YOUNG, Maj. G. F., 24th Punjab Infantry (specially awarded a silver medal).
 1889..DUFF, Capt. B., 9th Bengal Infantry.
 1890..MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891..CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893..BULLOCK, Maj. G. M., Devonshire Regiment.
 1894..CARTER, Capt. F. C., Northumberland Fusiliers.
 1895..NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896..BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897..NAPIER, Capt. G. S. F., Oxfordshire Light Infantry.
 1898..MULLALLY, Maj. H., r.e.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899..NEVILLE, Col. J. P. C., s.c.
 1900..THUILLIER, Capt. H. F., r.e.
 LUBBOCK, Capt. G., r.e. (specially awarded a silver medal).
 1901..RANKEN, Lieut.-Col. G. P. P., 46th Punjab Infantry.
 1902..TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903..HAMILTON, Maj. W. G., d.s.o., Norfolk Regiment.
 BOND, Capt. R. F. G., r.e. (specially awarded a silver medal).
 1904..MACMUNN, Maj. G. F., d.s.o., r.f.a.
 1905..COCKERILL, Maj. G. K., Royal Warwickshire Regiment.
 1907..WOOD, Maj. E. G. M., 99th Deccan Infantry.
 1908..JEUDWINE, Maj. H. S., r.a.
 1909..MOLYNEUX, Maj. E. M. J., d.s.o., 12th Cavalry.
 ELSMIE, Maj. A. M. S., 56th Rifles, F. F. (specially awarded a silver medal).
 1911..MR. D. PETRIE, m.a., Punjab Police.
 1912..CARTER, Maj. B. C., The King's Regiment.
 1913..THOMSON, Maj. A. G., 58th Vaughan's Rifles (F. F.).
 1914..BAINBRIDGE, Lieut.-Col. W. F., d.s.o., 51st Sikhs (F. F.).
 NORMAN, Maj. C. L., m.v.o., q.v.o., Corps of Guides (specially awarded a silver medal).
 1916..CRUM, Maj. W. E., v.d., Calcutta Light Horse,
 1917..BLAKER, Maj. W. F., r.f.a.
 1918..GOMPERTZ, Capt. A. V., m.c., r.e.
 1919..GOMPERTZ, Capt. M. L. A., 108th Infantry.
 1920..KEEN, Lt.-Col. F. S., d.s.o., 2/15th Sikhs.
 1922..MARTIN, Maj. H. G., d.s.o., o.b.e., r.f.a.
 1923..KEEN, Colonel F. S., d.s.o., i.a.
 1926..DENNY, Major L. E., m.c., 4/12th Frontier Force Regiment.
 1927..HOGG, Major D., m.c., m.c., r.e.

MACGREGOR MEMORIAL MEDALS.

1. The MacGregor Memorial Medal was founded in 1888 as a memorial to the late Major-General Sir Charles MacGregor. The medals are awarded for the best military reconnaissances or journeys of exploration of the year.

2. The following awards are made annually in the month of June :—

(a) For officers—British or Indian—silver medal.

(b) For soldiers—British or Indian—silver medal, with Rs. 100 gratuity.

3. For specially valuable work a gold medal may be awarded in place of one of the silver medals, or in addition to the silver medals, whenever the administrators of the fund deem it desirable. Also the Council may award a special additional silver medal, without gratuity, to a soldier, for special good work.

4. The award of medals is made by His Excellency the Commander-in-Chief, as Vice-Patron, and the Council of the United Service Institution who were appointed administrators of the Fund by the MacGregor Memorial Committee.

5. Only officers and soldiers belonging to the Army in India (including those in civil employ) are eligible for the award of the medal.*

6. The medal may be worn in uniform by Indian soldiers on ceremonial parades, suspended round the neck by the ribbon issued with the medal.†

Note.

(i) Personal risk to life during the reconnaissance or exploration is not a necessary qualification for the award of the medal ; but in the event of two journeys being of equal value, the man who has run the greater risk will be considered to have the greater claim to the reward.

(ii) When the work of the year has either not been of sufficient value or has been received too late for consideration before the Council Meeting, the medal may be awarded for any reconnaissance during previous years considered by His Excellency the Commander-in-Chief to deserve it.

MacGregor Memorial Medalists.

(With rank of officers and soldiers at the date of the Award.)

1889..BELL, Col. M.S., V.C., R.E. (specially awarded a gold medal).

1890..YOUNGHUSBAND, Capt. F. E., King's Dragoon Guards.

* *N. B.*—The terms " officer " and " soldier " include those serving in the British and Indian armies and their reserves, also those serving in Auxiliary Forces, such as the Indian Auxiliary and Territorial Forces and Corps under Local Governments, Frontier Militia, Levies and Military Police, also all ranks serving in the Indian State Forces.

† Replacements of the M. M. ribbon may be obtained on payment from the Secretary, U. S. I., Simla.

MacGregor Memorial Medalists—(*contd.*).

- 1891..SAWYER, Major H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892..VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGGAT SINGH, Havildar, 19th Punjab Infantry.
- 1893..BOWER, Capt. H., 17th Bengal Cavalry (specially awarded a gold medal).
 FAZALDAD KHAN, Dafedar, 17th Bengal Cavalry.
- 1894..O'SULLIVAN, Major G. H. W., R.E.
 MULL SINGH, Sowar, 6th Bengal Cavalry.
- 1895..DAVIES, Capt. H. R., Oxfordshire Light Infantry.
 GANGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896..COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Sepoy, Q. O. Corps of Guides.
- 1897..SWAYNE, Capt. E. J. F., 10th Rajput Infantry.
 SHAHZAD MIR, Dafedar, 11th Bengal Lancers.
- 1898..WALKER, Capt. H. B., Duke of Cornwall's Light Infantry.
 ADAM KHAN, Havildar, Q. O. Corps of Guides.
- 1899..DOUGLAS, Capt. J. A., 2nd Bengal Lancers.
 MIHR DIN, Naik, Bengal Sappers and Miners.
- 1900..WINGATE, Capt. A. W. S., 14th Bengal Lancers.
 GURDIT SINGH, Havildar, 45th Sikhs.
- 1901..BURTON, Maj. E. B., 17th Bengal Lancers.
 SUNDAR SINGH, Colour Havildar, 31st Burmah Infantry.
- 1902..RAY, Capt. M. R. E., 7th Rajput Infantry.
 TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
- 1903..MANIFOLD, Lieut.-Col. C. C., I.M.S.
 GHULAM HUSSAIN, Lance-Dafedar, Q. O. Corps of Guides.
- 1904..FRASER, Capt. L. D., R.G.A.
 MOGHAL BAZ, Dafedar, Q. O. Corps of Guides.
- 1905..RENNICK, Maj. F., 40th Pathans (specially awarded a gold medal).
 MADHO RAM, Havildar, 8th Gurkha Rifles.
- 1906..SHAHZADA AHMAD MIR, Risaldar, 36th Jacob's Horse.
 GHAFUR SHAH, Lance-Naik, Q. O. Corps of Guides Infantry.
- 1907..NANGLE, Capt. M. C., 92nd Punjabis.
 SHEIKH USMAN, Havildar, 103rd Mahratta Light Infantry.
- 1908..GIBBON, Capt. C. M., Royal Irish Fusiliers.
 MALANG, Havildar, 56th Punjab Rifles.
- 1909..MUHAMMAD RAZA, Havildar, 106th Pioneers.

MacGregor Memorial Medalists—(*concl'd.*).

- 1910..SYKES, Maj. M., c.m.g., late 2nd Dragoon Guards (specially awarded a gold medal).
TURNER, Capt. F. G., R.E.
KHAN BAHADUR SHER JUNG, Survey of India.
- 1911..LEACHMAN, Capt. G. E., The Royal Sussex Regiment.
GURMUKH SINGH, Jemadar, 93rd Burmah Infantry.
- 1912..PRITCHARD, Capt. P. P. A., 83rd Wallahabad Light Infantry (specially awarded a gold medal).
WILSON, Lieut. A. T., c.m.g., 32nd Sikh Pioneers.
MOHIBULLA, Lance-Dafedar, Q. V. O. Corps of Guides.
- 1913..ABBAY, Capt. B. N., 27th Light Cavalry.
SIRDAR KHAN, Sowar, 39th (K. G. O.) Central India Horse.
WARATONG, Havildar, Burmah Military Police (specially awarded a silver medal).
- 1914..BAILEY, Capt. F. M., I.A. (Political Department).
MORSHEAD, Capt. H. T., R.E.
HAIDAR ALI, Naik, 106th Hazara Pioneers.
- 1915..WATERFIELD, Capt. F. C., 45th Rattray's Sikhs.
ALI JUMA, Havildar, 106th Hazara Pioneers.
- 1916..ABDUR RAHMAN, Naik, 21st Punjabis.
ZARGHUN SHAH, Havildar, 58th Rifles (F. F.) (specially awarded a silver medal).
- 1917..MIAN AFRAZ GUL, Sepoy, Khyber Rifles.
- 1918..NOEL, Capt. E. W. C. (Political Department).
- 1919..KEELING, Lt.-Col. E. H., m.c., R.E.
ALLA SA, Jemadar, N.-E. Frontier Corps.
- 1920..BLACKER, Capt. L. V. S., Q. V. O. Corps of Guides.
AWAL NUR, C. Qm. Havildar, 2nd Bn., Q. V. O. Corps of Guides. (Special gratuity of Rs. 200.)
- 1921..HOLT, Major A. L., Royal Engineers.
SHER ALI, Sepoy No. 4952, 106th Hazara Pioneers.
- 1922..ABDUL SAMAD SHAH, Capt., o.b.e., 31st D. C. O. Lancers.
NUR MUHAMMAD, Lance-Naik, 1st Guides Infantry, F. F.
- 1923..BRUCE, Capt. J. G., 2/6th Gurkha Rifles.
SOHBAT, Head Constable, N.-W. F. Police.
HARI SINGH THAPA, Survey Department.
- 1924..HAVILDAR RAHMAT SHAH, N.-W. F. Corps.
NAIK GHULAB HUSSAIN, N.-W. F. Corps.
- 1925..SPEAR, Captain C. R., 5/13th Frontier Force Rifles.
JABBAR KHAN, Naik, 5/13th Frontier Force Rifles.
- 1926..HARVEY-KELLY, Major C. H. G. H., d.s.o., 4/10th Baluch Regiment.
- 1927..LAKE, Major M. C., 4/4th Bombay Grenadiers.

The Journal

OF THE

United Service Institution of India.

Vol. LVII. OCTOBER, 1927. No. 249.

EDITORIAL.

— — — — —

The unveiling of the Ypres War Memorial by Lord Plumer must have been a most impressive and moving ceremony.

To those who only knew Ypres as one of the most battered and distinctly unhealthy parts of the British line on the Western front, the new Ypres, as seen today from pictures in the illustrated papers, is a strange and quite unrecognisable place—so clean, so prosperous, so *safe* looking.

Not that one ever had the time, or the inclination, to examine the remains of the old city of Ypres in any great detail—it was not a place to dally in and one generally passed through it during the hours of darkness.

To those who were with the Lahore Division of the Indian Corps in April 1915 Ypres will remain a short but vivid memory. The first gas attack took place on April 22nd against the front held by two French divisions N. E. of Ypres and was overwhelmingly successful. It was repeated two days later on the front held by the British with hardly less decisive results. Chlorine, a deadly lethal gas, was used, emitted from cylinders.

The Indian Corps was at this time in trenches on the extreme right of the British line and the Lahore Division was at once pulled out of the trenches and commenced their long march up to Ypres—behind the whole of the front held by the British Army—to counter-attack. After many days in water logged trenches a march of nearly 30 miles at short notice is an arduous performance and the men were very footsore and weary by the time they reached the hutments at Ouderdom.

The German use of gas had come as a complete surprise and had found the Allies entirely unprepared. On the march, as the Lahore Division passed through Corps Headquarters at Lestrem, each man dipped his handkerchief in some solution which had been hastily concocted by the doctors—whether it would have been of any use or not we were never to know—as, in the dry sunny weather, the handkerchiefs were as dry as a bone long before the counter attack took place.

The Division attacked in the early afternoon next day over a glacial slope devoid of any cover, with a weight of artillery support which, in the later stages of the war, would have been considered ludicrously inadequate, and pushed forward most gallantly in spite of very heavy casualties, until, when almost within reach of the German wire, the thick, greenish, oily looking cloud of chlorine issued from the front line German trench and totally disorganised the unprotected troops. Reserve battalions, were, however, brought up and dug themselves in as far forward as possible that night.

The Lahore Division spent an anxious time during the next week with their noses almost under the German gas cylinders and no form of anti-gas protection whatsoever, but by the end of this time the first gas masks had arrived from Home—queer looking pads of cotton wool bound in black crepe which, although one cannot believe that they would have been of much use, at any rate afforded some moral support.

The British box respirator which was issued in 1916 gave such excellent protection against every form of gas that it is difficult for those who have not experienced it to realise the overwhelming effect of gas on totally unprotected troops. The effect of a new gas against troops equipped with a respirator not designed to stop that particular gas would be equally great.

It was very lucky for us that the Germans themselves had not realised fully the effect of gas before they first used it in 1915. After the first gas attacks gas defence was always rather ahead of gas offence but, in the future, this may not always be so and the devastating effect of gas against unprotected troops, and still more so against unprotected civilians, must never be forgotten.

* * * * *

The important Air manœuvres which have taken place recently in England were designed to test the powers of the defence against

an aerial attack on London. About 200 aeroplanes were engaged and a feature of the manoeuvres was the use made for the defence of a voluntary "Observer Corps" with observation posts round the coast to look out for raiders and transmit the news to headquarters in London.

Although this organisation worked well, the difficulty of preventing attacking aeroplanes from reaching and bombing their objectives appears to have been most emphatically brought out.

Of course the fire of anti-aircraft guns could not be accurately represented—and anti-aircraft gunnery has made great strides since the war—but the general opinion is that, in a concentrated and maintained air bombing attack, a certain number of aeroplanes will get through, however complete the defensive measures may be, and this brings us again to that much debated point as to what should be the air objective in war—the enemy's machines and aerodromes or the enemy's civil centres of Government, supply and transportation.

Opinion is very divided on this point—even among R. A. F. officers themselves.

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The Mechanised Force at Tidworth has been carrying out some most interesting tactical marches and manoeuvres which have been reported in great detail in the Press. It is interesting to note that one newspaper correspondent states "It must be remembered, of course, that it is not such a force as will ever be employed in war." This may be so but it is a curious fact that, although we always discourage the use of the "mixed brigade" in any sort of permanency, yet, whenever we want to form an experimental force, it generally assumes the form of the mixed brigade of all arms. When we form an advanced guard, or any other fairly large detachment, it is generally again an infantry brigade with a due proportion of the other arms attached. No one will dispute the fact that it is easier and makes for smoother and more efficient working if units of one arm co-operate in war with those units with which they have been accustomed to work in peace, and it is doubtful whether we may not perhaps be making a mistake in not giving rather more permanency to the mixed brigade organisation. The mechanised force has of course too great a diversity of types of machine to be employed in war as it stands but, with our limited military budget and the great diversity of terrain in which a British Army may be called upon to operate in defence of

the Empire, it may well be that one mechanised brigade of all arms, such as the experimental force at Tidworth, per division of the Expeditionary Force, is all that we shall be able to attain to for some time to come.

In any case it is self evident that mechanised units should work in co-operation with one another rather than be distributed among non-mechanised units, which would only lead to a waste of power and mobility of the mechanised units and very difficult staff work in the co-ordination of a lot of units with vastly different speeds and characteristics.

The two tactical marches carried out by the mechanised force were most instructive. Perhaps the most interesting point about the day march was the fact that the so called "slow moving" group consisting of tanks, tankettes and Field Artillery were set to average 7 miles an hour. This may sound slow but, in a march of 30 miles, this is every bit as much as they can be expected to do at present and they would not keep this up for any long period without overhaul and repairs.

The night march was a very severe test as it was carried out over a distance of 20 miles, mostly across difficult country, and included crossing the river Avon. Only the leading machine showed headlights, though even this would have been impossible had the march been conducted under active service conditions in the presence of the enemy. However, as a first test of such a march by a mechanised force, it was a distinct success and was incidentally not such a strain on the crews of the vehicles as had been expected.

It is satisfactory to note that, during the day march, the force had to pass through a gas concentration and that masks were adjusted with very little impediment to the progress of the column.

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An interesting article appears in this number from that well-known military writer Colonel J. F. C. Fuller on "Tanks in India", with a few words by another contributor giving the Indian point of view. There is also a review in this number on Captain Liddell Hart's latest book "The Remaking of Modern Armies." This book is very well worth reading, particularly by officers working for the Staff College Examination.

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Army Orders for June 1927 contain two important amendments to Field Service Regulations Vol. II. The first is that the Infantry

is no longer to be looked upon as the decisive arm in battle but only as the arm which "confirms the victory." The necessity for this alteration was foreshadowed by experience on the Western front in the Great War when the stopping power of the Machine Gun made it impossible for infantry to get forward without very heavy artillery support or the help of gas or tanks.

As to whether the infantry should yet be deprived of pride of place as the decisive arm in Eastern theatres is rather a more doubtful question. In mountain warfare, especially, the nature of the country and the difficulty of getting forward artillery ammunition in any quantity and the present absence (in India) of any form of mechanical fighting vehicle would appear to make such an alteration premature.

A few rounds from a 3·7 How. is generally all the preparation that can be expected and then the infantry must get on with the job.

The other amendment will be generally welcomed. Our old friend "the line in front of which it is intended to stop the enemy" in a defensive battle, which has given rise to so much argument and difference of opinion has been altered to read "the foremost line of defended localities in front of which it is intended to stop the attack." This should admit of no possible confusion—it is a definite line of localities on the ground and the fire of the defence will come down in front of it.

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At a recent Staff Conference held at Home the opinion was expressed by a very senior officer that the British Army is "over-manualled." There are altogether about 30 manuals which the infantry officer is supposed by regulation to keep up and, what is a far more strenuous business, to keep amended.

If we could cut down our manuals and only keep a few on the lines of Infantry Training Vol. II, which gives the company commander nearly all the tactical instruction he wants, both as regards his own arm and co-operation with the other arms, the manuals would be much more read and better understood.

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From January 1928 India is following the existing procedure at Home of making qualification at the Small Arms School obligatory before promotion to Captain instead of, as at present, before promotion to Major. A certain number of junior Indian Army Captains, most

of whom got their promotion to captain after only 4 years service, are, however, being made to qualify also.

The capacity of the School will only admit of a certain number of officers being put through annually and these should be subalterns who are closely concerned with the supervision of weapon training in their units rather than senior captains who for half the year will probably be officiating as second-in-command or even in command of their battalions.

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Army Order 220 of 1927 shows the result of the 1927 Staff College examination for Camberley and is of particular interest as this is the first time that the Camberley vacancies have been thrown open to competition for all arms.

The 38 competitive vacancies were filled by—

- 1 Cavalry,
- 12 Royal Artillery,
- 7 Royal Engineers,
- 10 Infantry,
- 1 Royal Marine,
- 1 Royal Tank Corps,
- 6 Indian Army (closed vacancies)

38

as compared with the following in 1926 :—

- 1 Cavalry,
- 5 Royal Artillery,
- 2 Royal Engineers,
- 1 Royal Corps of Signals,
- 11 Infantry,
- 1 Royal Marine,
- 1 Royal Tank Corps,
- 1 Royal Army Service Corps,
- 6 Indian Army,

29

The nominations to Camberley were—

	1927 Examination.	1926 Examination.
Cavalry	2	Nil.
Royal Artillery	1	4
Infantry	10	9 (Including 1 B. O. S.)
Royal Tank Corps	1	
Indian Army	2	2
	<hr/> 16 <hr/>	<hr/> 15 <hr/>

The Royal Artillery therefore come off rather badly in the way of nominations, to balance the number of competitive vacancies which they obtained.

Although more Royal Artillery and Royal Engineer officers passed in this year, the proportion of infantry officers qualified to gunners is about 2·3 to 1 as compared to about 1·5 to 1 in 1926.

It is interesting to note that, of those officers on the Indian establishment who failed to qualify in the examination for Camberley or Quetta.

66 per cent. failed in Training for War.

25 per cent. failed in Organisation and Administration.

9 per cent. failed in Imperial Organisation.

The high percentage of failures in Training for War is remarkable as the papers were much easier this year.

The results in Organisation and Administration have improved since last year when there was a much higher percentage of failures in this subject.

The qualifying minimum for Imperial Organisation has been raised from 30 to 50 per cent. so the subject must not be dismissed lightly by those candidates who had no difficulty in qualifying in it last year.

The age limit for the examination has once again been raised to 35 and, from the 1930 examination, an officer will have to have been 2 years on the Selected List before he is allowed to compete.

For the 1928 examination India has again decided to stick to the "closed" system of vacancies for Quetta, i. e.—

- 2 Royal Artillery.
- 1 Royal Engineer.
- 15 other arms.

in addition to the usual number of nominations. The 15 vacancies for "other arms" are of course open to competition among officers of the British and Indian services alike (with the exception of Royal Artillery and Royal Engineers); at the last examination 14 of them were secured by Indian Army Officers; at the next examination they might possibly all be taken by the British Service.

It is always difficult to advise an officer which College he should compete for with the best chances of success. For Royal Artillery and Royal Engineers, when the vacancies at both Colleges were closed, it used to be easier to get into Quetta—now, however, that there is open competition at Camberley it is not so easy to decide.

For Indian Army officers there are 6 definite competitive vacancies at Camberley against a possible 15 at Quetta. As regards nominations for Indian Army officers it is now immaterial which College an officer has competed for—all those who qualify for either College, but fail to obtain a competitive vacancy, are placed on one list and are equally eligible for nomination to Camberley or Quetta.

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The Army in India's challenge to America's polo supremacy has ended in failure by two matches to love, in the first of which the challengers were overwhelmed by 13 goals to 3, and in the second by the much narrower margin of 8 goals to 5. Although the second match was a really good effort from our point of view, it is only fair to the Americans to note that they were leading at the end of the 2nd chukkur by four clear goals and never appeared to be in any real danger of defeat.

From the time when it was announced that America would rely on her old four, Messrs. Webb, Hitchcock, Stevenson and Milburn, the chances of the Army in India team diminished, for this combination of players is undoubtedly the strongest in the polo world to-day and is probably the best four which has ever competed in these representative matches. No one who saw them defeat England so decisively in 1921 could have failed to have been impressed by the length and almost uncanny accuracy of their hitting—in other respects they did not appear to differ from our players—but they are all men with an "eye for a ball," and to allow them a shot at goal from anywhere within the half-way line was asking for trouble. Most of our best polo players before the war were good racquets players, or able to hit most forms of moving ball, on foot as well as from a horse; any such

game as racquets, which makes for quickness of hand and eye, must be good training for polo and the modern polo player might perhaps do more of it.

The selection of our team for the first match came as a great surprise, though the circumstances which decided it can only, of course, have been rightly judged by the selection committee on the spot who, alone, were in a position to judge the form of the players under American conditions. It is, however, a strain on the player of any game to feel that he must play for his place up till the last minute, which is the reason why in most team games at our public schools and universities the wise captain generally gives his "colours" to the certainties well before the important matches, to relieve them of this anxiety. It might perhaps have been better to have nominated the team to play before they left India, on the form of almost two years closely watched play, and to have taken the others definitely as reserves in case of casualties—the team proper would then have been able to keep to their places and their ponies and not have had to play in practice with other teams in other positions and then have been pulled back into the team for the second match which, on the form shown in the first, could be nothing less than rather a forlorn hope.

However we must make no excuses for our defeat. No pains were spared in the preliminary arrangements. We chose the best players India could produce—for nearly two years they practised and played together in all the big tournaments in India—they were well mounted and nothing was lacking in organisation, care and foresight both as regards players and ponies. They were beaten decisively on their merits by a better team—as would any other combination of players have been by the same team.

The doings of the Army team have been followed with the greatest excitement by all their supporters in India and we shall await more detailed news of the play with interest.

ANTI-AIRCRAFT DEFENCE

IN

MOBILE WARFARE.

(WITH SPECIAL REFERENCE TO EASTERN THEATRES OF WAR).

*(Lecture delivered at the Senior Officers' School, Belgaum,
by Major E. J. Ross, O.B.E., M.C.)*

It is a strong characteristic of Britons that we are apt to be over optimistic—to take the view that, because we *hope* things will be all right, they will be so. When our brains tell us that the future is likely to be uncomfortable, our optimism allows us to stifle all powers of reason, and so we go on in a false and pleasant paradise. This optimism has its good points, it prevents us from panicking and keeps up our moral, but it is one of the basic reasons why we have never yet been truly prepared at the beginning of a great war.

The first point in training for war must surely be to think out clearly what weapons the enemy will bring against us and how he will use them, to realise what the results of his action will be, and, facing these facts honestly and unswervingly, to decide what our counter-measures will be. Only by such honesty of thought can true efficiency in modern war be attained.

I cannot help thinking that we in the army have not so far as a whole adopted this honesty of thought towards our preparations for meeting aerial attack. We refuse to allow ourselves to admit how unpleasant and far reaching the effect of such attacks will be, and consequently very few of us have really thought out what steps are necessary to combat them. The result has been a general failure to appreciate the importance of training in anti-aircraft defence.

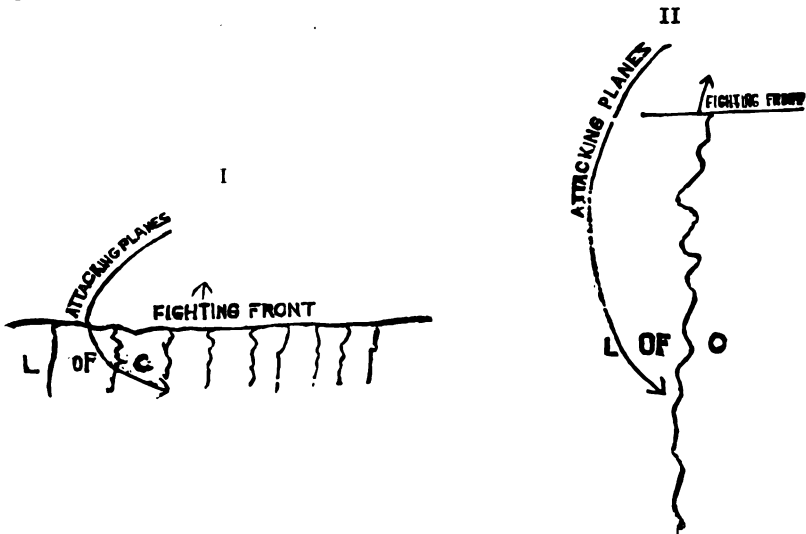
You may think that, from the point of view of ground troops, I draw too gloomy a picture. Possibly I do. At present no one can tell. But the views I put forward are the result of watching two big manœuvres closely, and after discussion with a number of officers, both in the army and the R. A. F. who have thought these things out.

I am discussing this question to-day from the point of view of a force engaged in a major war in the east. I assume that in such a case we would be contemplating an offensive against an army whose

airforce, though perhaps not the equal of our own, would at least be somewhere in the same class as it. For one has to remember that such a war would probably not be local, and a great part of our air force would be required simultaneously in other theatres.

Now what are the salient features of an eastern theatre of war viewed from the point of view of air attack? It seems to me that the following are the most important.

The first and most striking characteristic of all seems to me to be the immense length of the L. of C. compared with that of the actual fighting front. Look at the attached diagrams.



The first is a rough representation of the front in a western theatre, compared with the L. of C.

The second shows the same sort of thing with regard to a force fighting in Iraq round about Baghdad.

You will notice at once that an aeroplane in a western theatre which wishes to attack a central point on the L. of C. will normally have to cross some part of the fighting line, and more important still, the area just in rear of it, where will normally be situated both observation and the front line of anti-aircraft defences.

In the east, however, an aeroplane can easily pass outside the whole fighting front, and cut in from a flank unobserved wherever it pleases.

Narrowness is another important feature of an eastern L. of C. Generally speaking there is one narrow line and no other. It is therefore peculiarly vulnerable, while there is no alternative route should the one be damaged.

The whole force supplies and all, has to move through what is practically a continuous defile, divisions, trains and intermediate depots all on one and the same road. I wonder how much any of you would give to be in command of a divisional train in one of these when attacked from the air.

Again concealment—the most effective and the best passive form of defence against any air action—is almost invariably difficult to obtain. There are no great stretches of forest, etc., to hide troops, trains and depots.

There is a lamentable lack of fast moving and heavy weight carrying transport, and consequently an enormously increased quantity of slow moving animal transport, with all which that entails—masses of A. T. carts and camels, filling roads to their utmost capacity.

Remember, too, the difference between animals with their powers of thinking and feeling, and machines which can only run away when the driver starts them up and pushes in the accelerator. Think of the moral effect of bomb and gas attack on a divisional train of mule carts. Think of the mules stampeding in all directions, and the general confusion which follows. If you blow up one or two lorries out of a column it does not worry the others very much.

Finally there is an absence of effective civil objectives to attack, for normally in the east attacks on civil centres will not help much to get a decision.

Now I want you to think of these characteristics and consider whether they do not give a lot of cause for reflection. Think of an army of three or four divisions practically confined to the one road. Look behind the fighting troops and watch the thousands of mules and camels on the march closely packed on a single road—remember each one of these is a living and thinking animal subject to real mental worries, and particularly liable to panic.

Then think of the refilling points—the M. T. companies handing over their rations to the trains, and the masses of transport which are likely to collect there, probably, of necessity, in an open plain devoid of all cover.

Cast your eye further back still over the L. of C. that long single line, with all its intermediate depots, away back to railhead, where all your supplies lie unconcealed and open to air attack, and remember that there is no alternative line should that one slender thread be broken. Can you, for instance, imagine that we could ever again advance the hundred miles or so from Kut to Baghdad as we did in 1917, with our daily supplies carried on the good old paddle steamers moving three or four miles an hour, an ideal mark for air attack, if even two or three flights of enemy machines could take the air against us.

An army marches on its belly more truly now than it did 100 years ago. In the east, tactical considerations—the plans of “G” staff—have always had to be rigorously circumscribed by the difficulties of “Q”—the provider. That was in the days when Q had only lack of roads and long distances to contend against. What is going to happen to the unfortunate fellow when he has air attacks to worry him as well?

I do not know whether any of you ever suffer from nightmares. A very common one is to find yourself in the middle of a particular job, and then to discover that you cannot move hand or foot. You wake up in a cold sweat. When I think too much of this particular problem, I have a very similar nightmare. I see myself, again a “Q” officer, as I was during the war, running the administrative arrangements for an offensive operation. The show has started, the troops have moved, I have a reasonable reserve of supplies and feel quite happy. Suddenly we begin to get wires that our reserve dumps have been attacked from the air. That our refilling points have been scattered, and that our trains have been stampeded all about the country. Forage burnt and spoilt by gas, ammunition blown up, animals blistered with mustard gas. I wake up then, but I must say I come out in a cold sweat when I think of the troops all about the country without their rations and ammunition, and I sweat a bit more when I think of the interview I am likely to have shortly with my general. It is not at all a pleasant dream.

So far I have said nothing about attacks on the actual troops themselves. In my opinion these will be considerably less effective than those on administrative units, but still they can and will be very effective at times, especially if they are carried out, as they should be, at critical moments during the operations, while their effect will increase

out of all proportion, if troops have not been properly trained to look after themselves. Even where the actual damage is not great, their moral effect will be high. They will slow up recuperation after actions and, above all things they will lessen mobility.

Now I am not one of these enthusiasts who believe that air operations can, by themselves, achieve decisive results. They can no more do this than can any other branch—navy—artillery—cavalry—or infantry unaided and acting on its own. Of one thing, however, I am quite certain, it will be found utterly impossible for any force to undertake sustained offensive operations against an enemy who has, and is free to use, a properly equipped modern air force, until it has taken steps effectively to protect both its mobile units and its L. of C. from serious attack from the air, or to render such attacks ineffective.

This brings us to the main problem for discussion. How are we either to prevent these attacks or to render them ineffective?

Before we go on to this, I would like to enunciate what I take to be an absolute and unchanging truth. The principles of war hold good equally in every form of war, whether it be waged on the ground, on the surface of the sea, under the sea, or in the air. Offensive action and surprise are as important to the submarine and to the aeroplane as they are to the cavalry or to the infantry.

This gives us at once a line on which to design the most important point of our anti-aircraft defence. Are we going to sit still and let the other side drop bombs on us and machine gun us at his own selected time and under his own selected conditions? Surely not. Those of you who have been in a proper rough house will know the correct defence against gouging. When you see a fellow who looks like gouging, you kick him, very hard, and very quickly, in the stomach. That is to say you get your attack in first, and with all your strength. The only way to attack aeroplanes is by aeroplanes. In other words our proper defence against any form of air attack lies in a sustained and concentrated air attack on the enemy air force, both in the air and on his aerodromes.

The first point which a commander must ensure before he can embark on any offensive campaign is to secure real superiority in the air. To obtain this he will have to concentrate every machine he has got in a continuous and sustained attack on enemy aircraft, wherever and whenever they can be met, and especially on their own aerodromes.

An offensive campaign on the ground must, therefore, begin with a fight for air supremacy, and during this phase it will normally be impossible for the commander to set free any of his aeroplanes for the normal duties of mobile warfare.

Now it is the business of the Royal Air Force to guarantee superiority in the air, and I have no doubt whatever that they will be quite capable of carrying out their rôle. There is one point, however, on which we soldiers must be quite clear, for to us it is of the utmost importance.

Although the R. A. F. guarantee superiority in the air, they never can and never will, guarantee command of the air to the extent which the navy guarantees command of the sea. In other words, however successful we may have been in the fight for air superiority, we have still got to reckon on numbers of enemy machines being able to take the air for reconnaissance and for attack, and it is to meet this remainder that our ground defences must be designed.

It is often argued that, because offensive air action is the best defence against air action, a nation is therefore justified in spending all its available money on more aeroplanes, and none on anti-aircraft artillery or similar defensive weapons. This is of course pure fallacy. A boxer's truest defence is a vigorous offensive. The more he can lead, and the more effective his leads are, the less will he be called upon to ward off hostile blows. But he cannot hope that his offensive will invariably be successful against a well trained antagonist. He must pause at times to draw breath and to recuperate. His opponent must at one time or another have an opportunity of attacking in his turn, and in the absence of any attempt at guarding important points, may well seize the opportunity to strike a knock out blow.

Similarly a force which seeks to carry out successful offensive action on the ground, must have, ready and available, the necessary material to guard vital points on its lines of communication when the enemy airforce has succeeded in side-slipping the air offensive.

Now let us turn to the question of these ground defences. First and foremost comes the question of early information—an observation chain and linked intercommunication system. This I have no time to discuss here; so I will go on to the question of fire defence. I have no intention, even had I the necessary technical knowledge, to

discuss problems of anti-aircraft gunnery. I must, however, put before you the following points. The improvements in anti-aircraft gunnery during the war were considerably greater than the improvements in aircraft themselves. For instance, according to records compiled by the Americans, during the first few months of the war, 24,000 A. A. shells were fired for every effective hit which was obtained. In the closing stages of the war this percentage fell to 1,400 rds. per hit. A vast improvement. Since the war, I believe, very great strides have been made. History, moreover, is very clear on one point. In a direct combat the weapon firing from a fixed platform eventually beats that on a moving one. The man lying down with his rifle defeats the man advancing on him, while fixed land defences overcome the moving battleship.

The same thing will eventually apply to the contest between the aeroplane and the A. A. gun. The aeroplane has a fixed roof above which it cannot fly. The gunner trying to hit it is faced with a problem in pure mathematics, chiefly one of instrument making which, sooner or later, he will solve. Every year brings him nearer to this solution and it is safe to predict that in time it will be impossible for an aeroplane to fly over a properly defended area. What chiefly concerns us at present, however, is that anti-aircraft gunnery, instead of being a jest, as it was at the beginning of the war, is now definitely effective between certain height limits, the top limit being above that at which bombing is normally effective against small targets, while the lower limit approximates to three thousand feet—at which range controlled rifle and automatic fire becomes effective.

One often hears people say that it is useless trying to take on aeroplanes with rifle and automatic fire. Let us take comfort from the R. A. F. however, most of their pilots will tell you a different story. I think most of them will tell you that there is nothing they dislike so much as coming under heavy rifle or machine gun fire, and the damage inflicted by this, both on machines and personnel is very great. The reason why we people on the ground have so poor an opinion of the results is that we practically never see them. One cannot expect to bring aeroplanes crashing down like pheasants out of the sky with small arms fire, but what pilots, who did counter-attack and contact patrol during the war, could tell you of the result of rifle fire on their machines will surprise and encourage you.

It follows then that fire defence against aeroplanes will take two forms, firstly an upper defence layer of shell fire, and secondly, a lower belt of small arms rifle fire, while any sound system of defence requires the co-ordinated use of these two.

I do not intend to say much about the defence of railheads, depôts and fixed posts. This is really outside the scope of a lecture on mobile warfare. I must, however, call your attention to the fact that if these points are not adequately defended there can be no such thing as mobile warfare on our side. It is essential then that they should be defended, and their defence will have to take the form of the co-ordinated use of anti-aircraft artillery, search lights and machine guns, possibly with the addition of flame projectors and nets.

Now, to turn to the defence of mobile units. This takes three forms—

- (a) Concealment from view.
- (b) The use of formations which are not vulnerable to attack.
- (c) Defence by fire when concealment has failed.

Concealment is, of course, far the most effective, but it is extremely difficult to carry out in most countries across the border. It normally implies movement by night and halting by day, for hardly anywhere can troops on the move avoid being seen by day.

Now this movement by night and concealment by day sounds all very nice in theory, but it is desperately difficult to carry out in practice. Remember you have not to think only of the fighting troops, but of your trains as well. If your troops move by night, can your trains get up to them before dawn? If they do, how are they to get back to their refilling points? Can you refill in the dark, and can your M. T. lorries run at working speed along eastern roads in clouds of dust in the dark? All these points require an answer, and, whatever that answer be, it will certainly demand a very greatly improved standard of training and discipline on all sides.

Remember, too, that animals must be watered, groomed and fed by daylight. Personnel cannot sleep all day. So think of the strain on them. Think too of the difficulty of finding covered bivouacs for all your transport. They can move at night, but they cannot disappear down rabbit holes at dawn.

Then again take the case of the fighting troops. You can march them at night, and in many places you can find them covered bivouacs

by day, but it seems to me that if you do this continually you will kill your troops from sheer fatigue. It is not difficult, with training, to get troops to do their 14 or 15 miles across country by night, but what is their morale going to be like, and where will be the fire in their attack, if you expect them to do it night after night and then to attack all day on top of it? I saw a very fine brigade on Northern Command manœuvres who had marched three nights in succession and on the last night had done 14 miles, mostly across country. They were then pushed into a long attack. By 4 o'clock in the evening they were literally reeling with fatigue—fatigue alone, remember, without the strain of real war. Do not let us forget that the soldier in the ranks has any amount of work which he must do by day, although it can be reduced by careful training. But he has his rifle to clean, his rations to draw, his digging, his sanitary work and all the rest of it, while it is one of the characteristics of the east that you cannot get a refreshing sleep by day—the glare—the dust—the flies prevent it.

Taking all these matters into consideration it seems to me that if you are to get the full fighting value out of your men, you must reserve these night movements for a crisis, and not make them the ordinary routine. We must, of course, be prepared to move at night much more than we have done in the past, and to move much further and more quickly. But it seems to me that movement by day will still be the rule, and hence we must be prepared to protect ourselves by daylight, and often without cover.

I should like here to emphasise the effect which the use of mustard and similar gases is likely to have in this respect. Let us think again of Northern Command manœuvres, and the little thick patches of garden used so successfully for concealment by the troops. Would the troops still have concealed themselves so well in these had the enemy sprayed them with liquid gas? Surely one or two hostile aeroplanes with properly arranged tanks would have made the whole of these uninhabitable in a few hours. I think this problem of liquid gas is about the most difficult thing we have to face in modern war, and I have yet to hear of any solution to it.

Although matters will be very unpleasant at times for the fighting troops, it seems to me that the most vulnerable and effective targets for actual attack will be the refilling points. The latter must be carefully concealed whenever possible, and they must never be

allowed to become congested. It seems probable that, instead of having large refilling points serving a number of units, it will be necessary to have a number of small ones. Again the demand will be for improved staff work, better training, and discipline.

Trains, instead of being unwieldy and ill-disciplined masses, must be highly trained, able to shake out quickly into suitable formations and to manœuvre almost as effectively and rapidly as the fighting units. They must be able to move and find their way across country in the dark. They must, in short, be as well trained and disciplined as the fighting troops, and their junior commanders must possess sound tactical knowledge.

Again, the trains and refilling points, being the most vulnerable portions of your formations, must be the first to be properly protected by anti-aircraft artillery and machine guns. I suggest that the next war will see them protected by their own Lewis guns, mounted on limbers, which will work on a properly co-ordinated plan with the anti-aircraft artillery. But remember it is no use sticking a machine gun on a cart and putting a driver in charge of it and pretending you are protected from air attack. If you do this you are merely wasting a machine gun, and a perfectly good driver as well.

Many of the points I have referred to above, apply equally to the protection of the fighting troops. The latter have, however, several advantages. They are, for the present at least, better disciplined. They are more elastic, they are able to leave the roads almost anywhere and shake out across country into suitable formations. They have, moreover, their own weapons. But to take advantage of these characteristics a great all round improvement is necessary in march discipline, while battle drill for getting under cover and into suitable formations must be carefully worked out and regularly practised.

Remember that every commander is responsible for protection of his own unit against air attack from less than 3,000 feet, and that properly co-ordinated rifle and Lewis gun fire is effective up to that height. Remember, too, that anti-aircraft artillery only undertake the defence of units who are compelled to march on the roads. Once troops leave the roads and deploy they must look after themselves.

It may interest you if I sketch with a view to experiment, a suggested anti-aircraft organisation of a battalion.

It is based on the fact that hostile aeroplanes when they come near troops are doing one of two things, reconnoitring or attacking. If they are doing the former the best way to score them off is to get out of sight at once. We have therefore one signal on which each platoon commander is responsible for taking his platoon under cover as quickly as possible and for keeping it there. It is extraordinary how a little practice in this gets rid of the initial confusion and quickens it up.

Should it be fairly obvious that the battalion has been observed and there is a likelihood of the planes acting offensively, the first thing to do is to get the battalion into a formation which is as little vulnerable as possible, and at the same time to get fire defence into action. On the signal for this each company, and the transport gets into a square formation, alternate companies and platoons moving out on either side of the road. The advance can then be continued in this formation, platoons moving at varying distances from the road, and so keeping separate. It is very important to avoid lagging to the rear, for this will cause the battalion to occupy more than its proper road space when it closes on the road.

Fire defence is entrusted, in the first instance, to the Lewis guns of the two rear companies in the order of march, and is organised as follows. The four Lewis guns of the last company but one march at the head of the battalion, and those of the rear company at the extreme rear. The leading pair of each of these groups of four guns is ready for immediate action, the guns are not in their covers, and anti-aircraft mountings are carried by hand.

Should hostile aircraft be sighted, whether or not immediate attack appears imminent, the immediate action guns come into action one of each pair on either side of the road, while the next pair of guns prepares for action. Each pair of guns remains in action until the battalion has passed, and then comes up to the head of the battalion at the double, when the process is repeated. You thus get a step system of defence, giving you always four guns in action, while four more are always ready to supplement them should actual attack develop.

Whenever the battalion is halted, either in bivouac or in brigade reserve, all these guns are in action on their anti-aircraft mountings, and two men with each gun are on the look out ready to open fire.

The guns of the third company in order of march being grouped in pairs at the front corners of the battalion, and those the rear company at the rear corners. This gives the maximum raking effect from whichever direction aeroplanes appear, a most important point, both when halted or on the march.

You will notice that the L. Gs. of the two leading companies are not normally used for anti-aircraft defence, and remain with their platoons, so that they are ready for immediate use on the ground.

No orders are necessary for the allotment of guns for anti-aircraft defence. The third and fourth companies in the order of march take this on automatically as a matter of battle drill. When the battalion deploys for tactical work on the ground, the reserve company automatically takes over A. A. defence, and the guns of other companies which have been performing this duty rejoin their platoons.

In addition to this automatic fire, company commanders may, when ordered or attacked, open controlled rifle fire with two platoons, but only when it is certain that the battalion has been spotted.

While talking of this matter of battalion defence I would like to emphasise the importance of troops in reserve always taking full precautions against air attack. This is a point which is often neglected, yet this is the time when a battalion is most likely to be attacked. A reserve battalion or company should always be extended under cover, and should have its automatics ready for action and to open fire should the position be discovered and attack developed.

In conclusion I will try and paint a picture of what a well trained division will look like when doing an approach march against an enemy possessing a properly organised air force. First will come the fighting troops, but not in dense columns on the roads. They will be compelled to move on wide fronts, making use of all available cover, and moving across the open in artillery formation. Each battalion of the force will move with its anti-aircraft scouts scanning the sky, and with automatic guns ready for instant action. The whole force will be, as it were, on tip toe, ready to extend more widely or halt under cover at a moments notice on the alarm being given.

Behind the troops will move the trains, no long strings of carts and drivers jammed together on the roads, but elastic and highly disciplined bodies, ready at any moment to leave the road and adopt similar formation to the infantry, or to take cover as the situation may

demand. They will be covered by anti-aircraft weapons specially allotted for their defence.

Refilling points will no longer be great congested transport centres. They will be split up into smaller centres, and each site will be carefully selected for defence from air attack. They will be covered by a carefully co-ordinated system of anti-aircraft artillery and machine guns.

The concentrated portion of the force, but not the leading and deployed units will be covered by mobile anti-aircraft artillery moving in long rapid, bounds, and keeping watch over the columns as they pass.

All this will, of course, complicate enormously problems of staff work, of supply, and of time and space. It will throw an immense strain on the endurance of the troops and on the training of officers. It will, of course, slow up movement to a very great extent, and will therefore make tactical decisions slow and difficult to obtain. The difficulties of the offensive on a large scale will be vastly increased. But highly trained, elastic and well disciplined forces will still be able to retain their mobility, and will be at an immense advantage over those who have never considered and practised in peace, the conditions which will be imposed upon them in war.

A SHORT ACCOUNT OF THE CAMEROON WAR, 1914-1916.

By

CAPTAIN O. G. BODY, D.S.O.

Prior to the outbreak of the Great War in 1914 Germany possessed four distinct and separate colonies in Africa. Togoland, German West Africa or the Cameroons, German South-West Africa, and German East Africa. Against these four colonies four distinct and separate campaigns were waged. This is not generally understood and these campaigns are always being confused one with another.

Of these campaigns that in East Africa is always considered the most important. Certainly more troops were employed, more money expended, and it lasted for a longer period than any of the other African campaigns. The conquest of the German Cameroons, however presented a very similar problem to that of the conquest of East Africa. There is little difference in the extent of territory. The numbers of German troops engaged were about the same, (8,000 to 10,000). West Africa is probably a more difficult terrain to fight over, and probably a worse climate. The following figures will give a good line by which to judge the military achievements in the respective war areas under comparison. The East African Campaign lasted the full course of the war, 300,000 troops were employed and the cost of the campaign was somewhere in the neighbourhood of 500,000,000 pounds sterling. The Cameroon campaign was finished in 19 months; at no time were there more than 16,000 troops in the German Cameroon Colony and the cost to the British Government was something under three millions sterling. Those figures speak for themselves.

The Cameroon campaign resolved itself into a straight fight between the local West African Frontier Forces and the German Kamerun Schutztruppe. The W. A. F. F. penetrated a country 360,000 square miles in extent with practically no demands on other Imperial resources. Their success presents one of the most brilliant achievements in the whole history of our colonial wars.

The frontier of the British Colony of Nigeria marches with that of the Cameroons for a distance of over 700 miles from Lake Chad to the sea. In no single instance was this frontier crossed by even a German patrol, and yet the peace time garrison of Nigeria consisted

of only about 5,000 men. Such a result could only be accomplished by magnificent troops, magnificently led.

At the outbreak of the war it was evident that the Nigerian Government and the Colonial Office were working at cross purposes regarding the initiation of operations, and the general direction of the campaign. The local Government envisaged the movement of troops for the immediate protection of the frontier, and a vigorous offensive, with limited objectives beyond the border, as the only means of giving British soil immunity from hostile invasion. The Colonial Office eventually gave the campaign an entirely different direction, and initiated a general scheme of invasion of which local authority had no previous warning. Ultimately the main forces went in from the sea, *via* Duala, where a combined operation effected the landing of French and British West African Forces.

Our F. S. R. states "the strategic concentration of the Field Army, the selection of bases, and the general direction of the L. of C. are determined by the plan of operations. The order and rapidity with which the concentration of the troops and organization of the L. of C. can be effected exercise a great influence on the subsequent course of the campaign. Failure or miscalculation in the preliminary work of transporting and maintaining the troops can rarely if ever be redeemed." The campaign provides on a small scale an excellent example of failure and miscalculation being quickly redeemed. The quick redemption demonstrates the versatility of the local commanders, and the fine fighting qualities of the troops.

The Cameroon Territory presents very varied conditions of terrain. To the south of the Sanaga River and in the frontier areas about the Cross River-dense bush. Further to the north the forest gives way to a high grass land plateau. The country then slopes away towards the Benue and vegetation becomes more and more sparse until Lake Chad is reached. It was in the bush areas about the Cross River and in the area between Duala and Jaunde that the heaviest fighting took place. In this short account it is impossible to describe individual actions or to go into the details of fighting. Only those who have fought in dense forest country can realize the difficulty of advance and how greatly the defence is favoured. Bush fighting is very akin to night fighting. The enemy is met at point blank range and will seldom present himself as a target to rifles. He must be closed with at once, and the bayonet is the only weapon. Troops can only

operate in very small columns and must fight as individuals. Very little direction can be given to them when once they are committed to action. Patrol, point and advanced guard duties generally are particularly important, indeed the whole issue of each separate action is usually decided by officers and N. C. O's. who are acting with these advanced parties. Junior ranks are constantly presented with sudden and unforeseen situations which demand instinctive action and which only perfect training can acquire. Bush fighting requires troops of the highest morale and everyone must be imbued with the spirit to close at once with the enemy. These things are repeated merely to emphasize the difficulties with which the column commanders were confronted and to try and give a correct picture of the fighting, which ensued.

Opening Operations.

The local military authorities had everything cut and dried in the event of hostilities with Germany. Two strong columns were concentrated one at Yola on the Benue and one at Ikom on the Cross River. These two columns were to carry war at once into enemy territory, and seize Garua and Ossidinge respectively and hold them as advanced bases from which to advance further as soon as reinforcements arrived from neighbouring colonies.

The Yola column started its advance on August 23rd, 1914. It crossed the frontier and showed to advantage in the preliminary patrol fighting which took place. It drove the enemy in on to Garua, where they had a very strong position round the station. A night attack on the German position failed after heavy losses particularly in white officers. The troops fought most bravely, but the column had to be withdrawn to Yola. The Germans however had been taught a severe lesson in this quarter and contented themselves with the preparation of Garua against further attack.

On the Cross River our column fared even worse than at Garua. When in position and ready to strike this column learnt that it was not to be allowed to continue its offensive on to Ossidinge, but that the bulk of its troops were to be employed elsewhere. News and rumours came to hand with reference to a landing on the Cameroon coast and of a combined operation with the fleet and a French Expeditionary Force. On August 23rd a detachment of the Cross River Column received orders to make a demonstration across the

border with the object of drawing troops northwards from the coastal area. The column advanced and captured Nsanaknag, and patrols penetrated another 20 miles east of this place. Strong enemy forces were concentrated against the two * companies demonstrating, and they were eventually cornered at Nsanaknag and practically wiped out. This action was most fiercely contested. The defenders were in a small bush clearing with their backs to the Cross River. There were over three hundred killed and severely wounded on both sides, and British and Germans were fought to a standstill. At the suggestion of the German commander, Nsanaknag and an area of five miles round it were declared neutral, and also a neutral hospital established. This neutral area sealed the river line of advance across the border. The Germans retired to Ossidinge and what remained of our troops across the border into Nigeria. In these opening exchanges the W. A. F. F. had certainly suffered heavily, but the German Frontier Forces had suffered to a like extent, and were incapable of offensive action for the time being. When they had recovered from the first shock of these attacks their attention was diverted elsewhere.

The Landing of the British and French Forces at Duala, September 1914.

Although it is evident that there was lack of co-ordination in deciding on the general plan of campaign which resulted in order and counter-order, it is also evident that, in this instance, the Home Government was greatly handicapped by the fact that we merely had an *entente* with France and not a military alliance. Had a written treaty existed sound military combinations could have been worked out beforehand, and the hastily arranged plans of campaign such as became necessary in the Cameroons would have been avoided. Sound military policy must be based upon fact and not upon sentiment.

Under instructions received from the Home Government, forces were collected and embarked for a main landing on the Cameroon coast about Duala. British and French troops were both to take part in this operation which was to be assisted by the Fleet.

The port of Duala lies several miles up the estuary of the Duala River. The estuary is dotted with low and swampy islands. Sand banks and shallows render the entry most difficult. The Germans carefully mined the fairway and also sunk twenty-three vessels in

* Companies consisted of about 120 men.

order to obstruct the passage. The Germans seem to have been convinced that our landing would have to be made at the entrance to the estuary, and were so sure of holding Duala that they took no precautions to send supplies, etc., inland. On the 26th of September the Governor issued a proclamation to the people to say that Duala would be held to the last man if the Allies attempted a landing. On September 27th, H. M. S. "Dwarf" appeared in the river right opposite the town and exchanged shots with the Duala garrison. She had found the entrance and the next day led in H. M. S. "Cumberland" followed by the transports conveying the French and British troops. Duala surrendered without fighting. The natives of Duala were very friendly to the British and gave them a warm welcome. Mungo Bell the "King" of Duala, had been executed by the Germans on August 7th, and the Duala people think to this day that England declared war on Germany to avenge the death of their chief.

Most valuable stores of all kinds were captured in Duala. Workshops and an excellent hospital existed; everything in fact to make a good base of operations.

The German Government Officials left Duala in great haste by whatever means they could. Some went up the northern railway, and some by the eastern towards Jaunde where the new seat of Government was established.

The Advance up the Northern Railway.

The British troops landed at Duala now pushed north up the railway, while the French pushed east towards Edea and Jaunde.

Lt.-Col. Heywood's column fought a brilliant little action at Sousa on the northern railway, and gave the Bosche a severe handling. He drove the enemy up the northern railway always having the best of the exchanges. He then turned to block the line of retreat of the enemy who were holding out at Buea. Buea was captured the second week in November. Several officers, Government Officials, etc., were taken prisoners and approximately 500 German soldiers killed, wounded, taken prisoners or scattered in the bush. The column attacking in rear from the line of the railway rendered this a complete round up. Colonel Heywood again resumed his advance and by Christmas gained Dschang Plateau and occupied Dschang station 50 miles beyond the end of the railway. Having no definite objective

at which to strike and supplies being a great difficulty, this column was now withdrawn to railhead.

A column advancing from the Cross River had also by a clever bush operation occupied Ossidinge. Our columns were now in such a position as to render a German raid into Southern Nigeria impossible.

French Operations round Duala and their Advance from the Congo.

The French troops who landed at Duala did not make much ground towards the east but with the help of some British river craft, they captured Elea before the year was out. The Germans made a most determined counter-attack against Elea at the beginning of the New Year, in which they received about 200 casualties, including many valuable officers. The French casualties were practically nil.

The French troops coming in from the side of the Congo were much more active.

Troops from Ubangi Territory occupied Nola and Bania on the Sanga River (not to be confused with the Sanaga) preparatory to striking against Gaza, Bertua and Dume station. This line of advance was through much more open country whereas, up the Dschar River on to Lomie was through most difficult bush. The occupation of Molundu was, however, essential, in order to keep open the line of the Sanga River which is navigable and was required for a line of supply. Failure to occupy Molundu caused the French much trouble in the long run.

In this area an old and very experienced German bush soldier was in command—Hauptman Von Der Marwitz and with a mere handful of men delayed the French operations for days. After the French were established at Nola and Bania he cut the line of the Sanga River, and for a matter of a fortnight or three weeks hung on to this line and prevented the passage of all transport. The French had to bring troops back down the river, and after severe fighting Molundu was occupied. Von Der Marwitz then retired on Lomie.

French Columns under Col. Morrison captured Gaza and Bertua about Christmas 1914, and the Germans were well on the run in this quarter, and even burnt Dume station and the supplies there, in

Order to prevent them falling into the hands of the French. Von Der Marwitz again came to the rescue of the Germans. Advancing from Lomie, this time due north, he crossed the Dume River in rear of the French and operated against their L. of C. This brought the French advance to a standstill on the line of the Kadei River, where they remained until July 1915.

The First Advance on Jaunde.

Our columns were now advancing far into enemy territory and great difficulties of transport were being felt. The rainy season was approaching which would increase our difficulties. An effort was therefore made to advance and take Jaunde before the rains set in. The advance was to be undertaken by the French, but Colonel Heywoods column was brought round from the railway and operated under French command.

The road from Edea to Jaunde leads through most difficult country and the Germans had had a long time to arrange for its defence. The railway runs at some distance from the road (several miles) and diverges from it. Only sufficient troops were available for an advance by the road, and no attempt was made in this advance to clear the railway.

Colonel Heywood attacked with his usual energy and drove the Germans across the Ngué River, (about 40 kilometres east of Edea). The advance continued for about another 20 kilometres when great difficulties of supply were felt. The enemy operating from the railway got across the rear of our columns, and to add to the difficulties the rains broke early. The French commander therefore ordered the columns to retire to the line of the Ngué River and this position was held until the final advance on Jaunde was made in the autumn of 1915.

Operations in the North.

Interest was now principally centred in the north where forces operating under General Cunliffe had succeeded in driving all the Germans in this region, in on to Garua. This place had been turned into a miniature fortress. It was garrisoned by about 600 native troops and many white trader reservists. Our small mountain guns had not sufficient range to shell the Fort, and our troops settled down to what was practically siege warfare.

A naval gun was then brought up the Benue and used against the Fort. The very first round which this gun fired, according to German information, fortunately fell right in the middle of a German Company parading, and inflicted many casualties. This was too much for the native troops and they got out of hand. The German officer in command, against his will, consented to an effort being made to break out. The German tried to cross to the Benue south bank on which we had only weak detachments. The effort failed completely. Over 150 of the enemy were either drowned or killed in the attempt. Garua was unconditionally surrendered.

Fourteen days after the fall of Garua the M. I. by forced marches reached Ngaundere, which it captured after completely surprising the garrison. This was a very big advance. The northern columns were now closing the circle which was being drawn round the Germans, and were in a position to co-operate in the final advance on Jaunde.

Further French advances from the East.

Operations now, in general, were held up until the close of the rainy season. On the French eastern front however some advance was made. A column advancing from Molundu threatened the Germans at Lomie. The line of advance passes through some of the densest bush in the whole Africa. For ten days march, not a native or a village is to be seen, and the road is a most primitive forest track. The French Column under Colonel Hutin was pitted against our old friend Von Der Marwitz, and some heavy bush fighting ensued. At Hutin's first attempt Von Der Marwitz fell upon his rear, and surprised and severely handled some of the French troops in reserve. In Hutin's second attempt however Von Der Marwitz was killed most gallantly leading his troops. Shortly after this the German companies at Lomie mutinied. Some joined the French and some scattered in the bush.

Hutin's column occupied Lomie, and this success enabled Colonel Morrison to push on. After sharp fighting Dume was occupied, and an advance was made to Abong Bang at the head of the Njong River. From this place a fair road leads to Lomie and communication was now opened up between these two columns.

The Final Advance on Jaunde.

Preparations were now made for the final advance on Jaunde to take place as soon as the rains had finished in the south. All columns were to co-operate and close on Jaunde. The difficulty of rounding up the whole of the German forces was realized, and also the likelihood of the Government taking refuge in the Spanish territory of Muni. In order to prevent this, Campo was occupied and an effort was made to advance inland along the Spanish border. The French working up from the Gaboon occupied Ojem and pushed on as far as Ambam. The Germans were evidently very nervous about their line of retreat into Spanish territory and sent down strong reinforcements to resist these advances and keep open their road.

As soon as the rains finished in October 1915 the main advance up the Edea-Jaunde Road began. The British and French Forces advanced in two main columns. The British by the road and the French by the railway. The French column was to clear the railway and to strike the road which runs south from Jaunde to Ebulowa and seize the crossings over the Njong River at Widemenge.

The British Force was to advance direct up the road on to Jaunde. It was organized in three light columns under Lt.-Col. Heywood (4th Nigerian Regt.), Lt.-Col. Cockburn (1st Nigerian Regt.), and Lt.-Col. Rose (Gold Coast Regt.), the whole under Brig.-Genl. Gorges.

The Germans were forced back from the Ngue River after stiff fighting. In the thick bush constant contact with the enemy was kept, and almost every bend in the road was disputed. The work of the officers and troops with the advanced parties was beyond all praise. They were constantly subjected to ambush and had to meet the enemy fire at point blank range, but they established complete mastery over the Germans. The columns pushed on slowly making on an average three or four kilometres a day. The Germans had made several prepared positions astride the route, but these were never attacked frontally but always outflanked, the Germans proving particularly susceptible to all outflanking movements. At the Mbila the Germans had prepared a particularly strong position on which they placed great reliance, but our troops were passed round it and it eventually fell with very few casualties. The enemy was constantly outmanœuvred and pressure was always kept up. Any check or temporary halt in the advance would have been fatal at this time.

The French on the railway did not get on so fast. Colonel Cockburn therefore was ordered to strike south from the road on to the railway. After stiff fighting he drove back the Germans and let the French in on to the head of the railway at Eseka.

The column from the north under General Cunliffe were also advancing. They captured Banjo which was strongly defended by the Germans and made contact with troops advancing from the Cross River about Bamum. The Germans now decided to withdraw to the south of the Sanaga and stage one desperate counter attack in defence of Jaunde. The troops which the Germans withdrew from the north were to advance against our left flank between the Edea-Jaunde Road and the Sanaga River. Things on the main road and railway, however, were by this time so critical from the German point of view that his troops detailed for the counter attack were diverted to reinforce frontally, and his outflanking movement did not amount to much when it was actually staged.

Our left flank was well watched and the enemy's scheme was soon realized and dealt with.

During the last forty kilometres of the advance pressure was greatly increased. Complete mastery over the enemy was apparent. Colonel Heywood ordered his forward bodies to reply to the enemy's fire with the bayonet alone. That such an order was ever given after 15 months' campaigning is ample proof of the fine fighting qualities of the W. A. F. F.

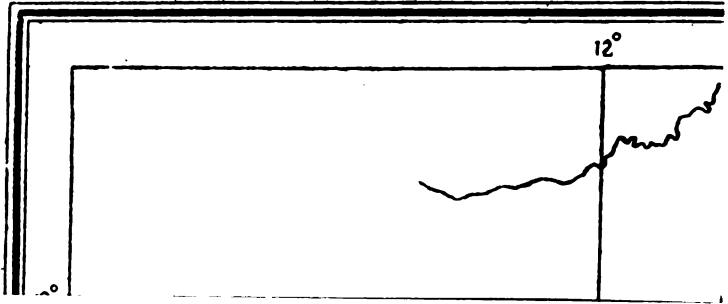
Colonel Heywood eventually entered Jaunde on the 1st of January 1916. Between the 1st and the 6th, detachments of French from Dume, and British detachments from the Cross River, and Garua, also entered.

What remained of the German forces retired south across the Njong river by the Nkole Maka Road, and managed to avoid the French columns who had struck south from Widemenge in order to cut them off at Ebulowa. Colonel Heywood, however, with scarcely 400 effective rifles hurried over 2,000 fugitive Germans across the Njong and hung on to their heels until they reached the Muni Border where they laid down their arms and entered Spanish territory.

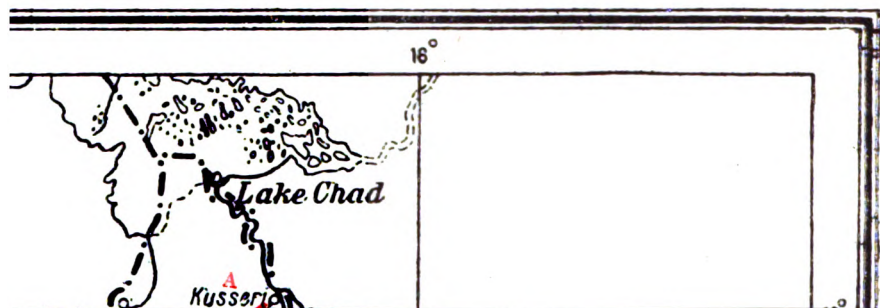
The Cameroon War must be reckoned as the most successful of our side-shows. The W. A. F. F. in particular distinguished themselves. Their exploits will be considered all the more remarkable

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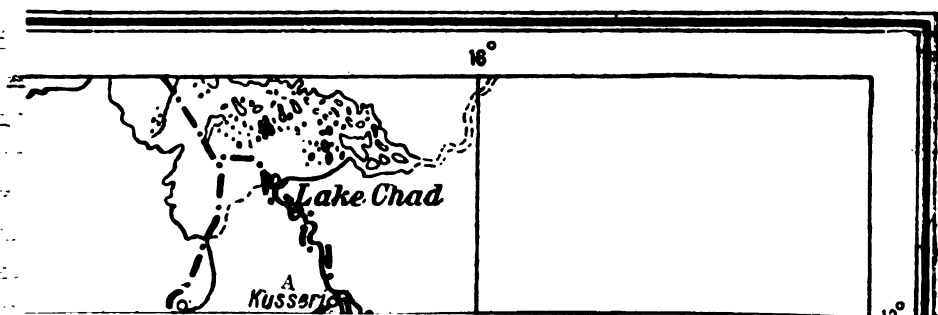
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when it is stated that in peace-time no organized transport existed, also there was no reserve whatever to draw upon. Their mobility, their independence of communications, their ability to live on the country, their hardihood and gallantry were the secrets of their success. The following extract from one of the accounts of the Cameroon war will give some idea of the feats of endurance of which these troops are capable, and will also show that their great reputation was hard won.

The account refers to an attack by the Germans on one of our small frontier posts at Gurin near Yola.

“The Garrison of Gurin held a small mud fort outside the town, with 40 native soldiers, a British N.-C. O., and Lieut. Pawle; Mr. J. F. Fitzpatrick, a political agent, was also present. The assaulting force comprised 400 native infantry, 16 European officers and N.-C. O., with four machine guns. The attack lasted several hours, and 60,000 rounds were fired by enemy machine guns alone. Lieut. Pawle was killed almost at the beginning and the British N.-C. O. was wounded. Mr. Fitzpatrick took command and the assailants were beaten off with a loss equal in dead alone to the defending garrison. On the following day a relieving force arrived from Yola having completed a march of 62 miles in 22 hours.”

The campaign was full of similar incidents. There are many who are under the impression that these so-called side-shows were conducted in a kind of happy-go-lucky-holiday spirit: whereas, on the contrary, hard marching, short rations, and heavy casualties, were the outstanding feature of this campaign, which established the reputation of the W. A. F. F. and the fighting races of the Western Sudan, as second to none among the fighting forces of the Empire.

DUKE OF MONMOUTH—GENERAL.

By

MAJOR A. H. BURNE, D.S.O.

This paper does not set out to produce any new facts, but rather to induce a new point of view. To step ever so little off the beaten track, blazed by such an authority as Lord Wolseley is certainly daring and would be presumptuous, were it not that a certain amount of support can be obtained from the latest work on the subject. I refer to "*The Wars of Marlborough*," by Frank Taylor, a book which should be in every soldier's library.

"Nothing succeeds like success," and nothing dams like failure. Every school boy knows that the Duke of Monmouth's Rebellion ended in failure. Hence it is easy to suppose that he was a "dud," so far as Generalship is concerned, and Mr. Wise—after-the-event—has not failed to blast his reputation. His eventual conqueror, Lord Feversham, has been treated equally harshly, but from very different motives.

The object of this paper is two-fold; first, to show that Monmouth was a General of the first order, and that his opponent, Feversham was not the supine dolt that he is generally represented; secondly to draw attention to a campaign—the last serious fighting on English soil from which many valuable lessons can be learnt.

To derive the full benefit from the study of a campaign it is essential to appreciate the situation at each stage *before* discovering the course actually adopted. Having then decided how you would yourself have acted you proceed to read the steps that were in fact taken.

In order to make this process easy for the reader who is not already acquainted with the details of this campaign I have accordingly in the following outline propounded a few problems as the story unfolds itself, and I invite the reader on reaching such a problem to put the paper down, study the map, and work out his own solution of the problem before reading any further.

The story opens on June 21st 1685, when the Duke of Monmouth, bastard of Charles II, landed at Lyme Regis with 80 followers and proclaimed himself King.

His appreciation of the situation may be stated as follows :—

“James II is unpopular and a Papist. I am popular, a Protestant, and have proved my military capacity under Turenne. The west country is disaffected and will flock to my standard. Part of the regular army who know and have fought with me will come over also. Friends in Cheshire will join, Argyle will raise trouble in Scotland, and an insurrection can easily be provoked in London if things go well. Meanwhile there are few regulars nearer than London, and a large part of the army is on service in Holland.

My first steps must therefore be :—

- (1) To enlist the support of the country folk and gentry of the south-west, and to arm and train them.
- (2) To win over as many as possible of the militia and later of the regular army.

After this has been accomplished, Bristol looks an attractive objective. I have friends inside who would help, it would provide me with arms and stores, and the capture of the capital of the west, the second city of the land, would be of tremendous moral value. Thence a dash on London in conjunction with my Cheshire friends seems possible.”

Comment.—If his premises were correct there would be little to find fault within this plan of campaign.

Unfortunately for Monmouth they were not correct, as we shall see. Though the country folk from the west flocked to his standard the gentry held aloof. And although the Devon and Somerset militia were unreliable and a portion of them deserted to him, the neighbouring countries held to their lawful king, and the regular army proved loyal.

Narrative.—The Duke's initial step was easy. On the very first day 1,500 recruits joined him. On the third day he showed his daring by attempting a *coup de main* against the Dorset militia in Bridport, 8 miles away. But much could not be expected from a two-day old cavalry, and the attack failed.

Problem I.—*Whether to march straight on Bristol, or to collect and train his men first.*

If the latter, the regulars from London might forestall him. If the former, the local militia might prove too strong for him.

Solution.—Three days training ; and then march on Taunton and Bridgewater in order to pick up further recruits, and thence without any delay march on Bristol.

Comment.—Monmouth has been blamed for this solution. But three days in which to train a soldier and form an army does not seem excessive ! It is really astonishing that he dared to attempt an offensive move as early as he did.

Narrative.—At 4 a.m. on June 23rd the news of his landing reached Whitehall. Quick work ! The same day Lord Churchill (afterwards Duke of Marlborough) was appointed to command the Royal army, and marched off, at the head of 6 troops of cavalry. Neither he nor the government were exactly letting the grass grow under their feet. Infantry and artillery (the latter from Portsmouth) were to follow as soon as possible, making for Salisbury.

Four days later, June 27th, he reached Bridport where he was joined by the Dorset militia.

On the 25th Monmouth had set out for Axminster where the mere presence of his 3,000 men and 4 guns dispersed the Devon and Somerset militia, many of whom deserted to him.

On the 26th he was at Chard, and on the 28th reached Taunton while Churchill followed him to Axminster. Only 22 miles separated the two armies. But Monmouth halted for two days and Churchill closed up to Chard, 13 miles away, and his patrols gained contact with the rebels. Here next day his infantry joined him—five companies of the Queen's Dowager Regiment. Churchill had served under Monmouth on the Continent, and the Duke now wrote and tried to win him over to his side. Churchill's only answer was to forward the letter to the King.

Monmouth's first misfortune now befell him. Part of the Royal Fleet reached Lyme, captured two of the rebel ships and drove the third away. His line of retreat was thus cut off.

Problem III.—*What should Monmouth Do ? Monmouth's Appreciation.*

“ Churchill is within striking distance with a small force of regulars and the Dorset militia. In a few days they will probably be joined by more of each. I have now 7,000 troops, superior in numbers but not in quality. Churchill has cut me off from my base, but he is

further from Bristol. To turn and attack him would be bold, and if successful would cause defections. But it would take me away from Bristol, and the issue would be very doubtful. Also there is the danger of Churchill marching to Langport at the same time, in which event I should be playing into his hands."

Solution.—To march on Bristol, picking up recruits at Bridgewater en route.

Comment.—The fact that Monmouth seriously entertained the project of attacking Churchill shows that he was prepared to take risks, had the instinct for the offensive, and appreciated the value of surprise movements. On the other hand, by refusing to be diverted from his objective he observed the principle of maintenance of the objective. His solution was a sound one.

Problem III.—What should Churchill Do? His Appreciation.

"With my infantry now up, and my superiority in cavalry, I now feel equal to meeting the enemy, given favourable conditions. The King wishes me to occupy Bridgewater and bar the road to Bristol. But Monmouth is already between me and Bridgewater so the first part is impossible. As to Bristol, the enemy are slightly nearer to it than I am. Therefore if they make straight for it, as is probable, I should have to march very fast to get there first. My cavalry could do it easily but my infantry are tired after a long rapid march and only arrived to-day. Therefore I should have to split up my force again. This would be disastrous as I cannot count on the Devon and Somerset militia for any assistance. In any case the Gloucester, Monmouth and Hereford militia are in Bristol, and should be able to hold it. So a more prudent course will be to "attend" Monmouth's march, dogging him closely, worrying his flanks with my superior cavalry, and thus delay his march. Meanwhile the presence of my troops in this neighbourhood is having good results, in restraining the population from joining the rebels."

Solution.—(In his own words) "to follow the Duke of Monmouth" "to press the rebels as close as ever I can."

Comment.—This reasoning seems hardly good enough to justify him in ignoring the King's wish. The political reason may have been sound, but it was a factor which must have been equally known to the King and discounted by him. Churchill's decision assumed that

Monmouth was making for Bristol. But should the latter delay or strike back at Chard, Churchill's case would fall to the ground. As a fact, we have just seen that Monmouth did contemplate doing this very thing. Actually he pursued the course guessed at by his opponent, who is certainly entitled to credit for correctly divining his intention ; but James II had equally fathomed it, so that again takes away any excuse Churchill had for disregarding the King's wishes. Note also how the parts are reversed. Churchill (Marlborough to be) taking the prudent, almost timorous course ; Monmouth, the irresolute, seriously contemplating an attack by his raw soldiery on the Royal Army, and eventually adopting the almost equally courageous plan of attacking the second city of the Realm.

Narrative.—July 1st.—Monmouth set out and reached Bridgewater where he was enthusiastically welcomed and increased his strength to 9,000.

Churchill followed on a parallel road to Langport.

July 2nd.—Monmouth to Glastonbury.

Churchill rested his infantry but harassed the rebel march with his cavalry.

July 3rd.—Monmouth to Shepton Mallet.

Churchill to Somerton, where he was joined by five companies, the Queen's Own Regiment and eight guns.

N. B.—Note Churchill's slow march. He is losing distance. Meanwhile Lord Feversham had been placed in command of the Royal Army which had been increased in size. Lethargic, careless, indolent, gluttonous, are some of the adjectives that have been applied to this much maligned foreigner. But his first movements hardly bear out this impression. Three battalions were given him, the 1st Guards, the Coldstreams, and the King's Own. Ordering them to march on Bath, he set out from London June 30th at the head of 200 horse, of whom he shortly detached a portion under Lord Ogilthorpe to scout in the direction of Andover and Warminster. Travelling rapidly he reached Bristol, 120 miles, at noon on the 3rd of July where he found the militia of three counties in occupation.

The Wilts and Hants militia reached Bath the same day, and by dint of strenuous marching his main body reached Marlborough, 30 miles, due east of Bath. A train of artillery consisting of 16 brass pieces, was in process of formation, but could not join him for several days.

July 4th.—Monmouth was ignorant of Feversham's movements and continued his march to Pensford, 4 miles south of Keynsham.

He sent a party on that night to repair the bridge over the Avon at the latter place. Feversham had had the foresight to have it destroyed.

Churchill marched to Wells, 14 miles behind the rebels, with a hilly road in front of him ; but with his cavalry still worrying the enemy.

Feversham returned to Bath, where Ogelthorpe rejoined and was sent out again to gain touch. The regular infantry were still one march east of Bath. Nine of his guns left London on this day. At midnight Feversham received news that Monmouth was at Pensford.

Problem IV.—What should Feversham do ?

Appreciation.—"Monmouth has marched rapidly and straight, evidently with a definite objective. What is it ? He is situated in a position to strike equally at Bristol or Bath (he is 7 miles from each) or straight on to Gloucester and the north. Bath to Bristol is 12 miles, the Avon joins the two towns and the only bridge (at Keynsham) is destroyed. Still the river is small, and can only delay, not prevent, his crossing if Gloucester is his objective. He has about 10,000 men and appears to be resolute and full of confidence. I cannot muster that number. Even if all were concentrated, which they are not, I should have under 3,000 regulars. Hence it is not possible to guard simultaneously against all three objectives.

Of the three, Bristol is the most probable, because it—

- (i) Is the more directly in his line of march.
- (ii) Offers the biggest gain.

Since both towns cannot be simultaneously defended I should concentrate on the most likely, namely, Bristol. The alternative is to leave Bristol to its fate and join Churchill who is 20 miles away. If I do so, Bristol will probably fall. This accession of strength to the enemy would more than counter-balance the gain to us. Besides there is the chance that if Churchill continues his pursuit we may get Monmouth between two fires.

Solution.—To march on Bristol.

Time and Space Factors.—"Monmouth is 7 miles from Bristol and can easily attack it at dawn. Therefore must reinforce it during the night. The cavalry have had a light day. It is now midnight. Dawn is in $3\frac{1}{2}$ hours, distance 12 miles. Therefore they must get off

as soon as they can be collected from their billets. The militia, must follow as quickly as possible. *Route*, by the north bank of the river in order to obtain protection to the exposed left flank."

These orders were promptly given and carried out.

Comment.—The above must have been the train of reasoning employed by Feversham; and can anyone find fault with it?

The only other possible course was to attempt a junction with Churchill. But a junction on the field of battle is always difficult to bring off, and a junction of it would involve too much time. Remember, his means of communication with Churchill were primitive and precarious. Undoubtedly Feversham came to the right decision and acted on it promptly and energetically. "Lethargy!" "Indolence!" indeed!

Narrative—July 5th.—By dawn the Royal cavalry were in Bristol, and the infantry *en route*.

Monmouth, knowing nothing of it, crossed the river at Keynsham, and then suddenly re-crossed, his object being to mislead the enemy. His real intention was to attack Bristol by night from the north-east which was the weakest side. Meanwhile he rested his army during the day at Keynsham, and made his preparations for the coming assault.

Churchill advanced to Pensford, still in touch.

During the day Ogelthorpe blundered into the rebel camp, charged his way through but left some prisoners. These stated that Feversham was at hand with 4,000 men. Later on Monmouth was informed that the Royal Army was in Bristol.

Problem V.—*What should Monmouth do?*

Appreciation.—"My army now numbers 1,000 horse, 8,000 foot, four guns.

Feversham with about 4,000 men (including regulars) at Bristol 7 miles N.-W.

Churchill with about 3,000 men (including regulars) is in touch, to the south.

Bath is probably occupied too. Therefore I am practically surrounded; *but* I am on interior lines and still have the initiative. How can I keep it?

By utilising my interior lines in one of the following directions :—

1. Attack Bristol.
2. Cross the Severn at Gloucester.
3. Attack Churchill.
4. Attack Bath.
5. Move into Wilts, threatening London.

(1) *Attack Bristol.*—Its fortifications are in bad repair. Friends inside are reported prepared to open the gates ; but are probably overawed now by the presence of Feversham. Surprise is no longer possible. A night approach and attack—the most difficult of all military operations, even to trained troops—would be precarious at the best of times, but impossible (bar a miracle) with the Royal Army in occupation. Is it worth invoking that miracle ? Not unless there is absolutely no other course open to us. But there are four.

(2) *Cross the Severn at Gloucester.*—The bridge being repaired at Keynsham, the way lies open. Feversham having shown himself so anxious to get into Bristol will be loath to quit. We should probably therefore get a good start on him. By destroying the bridge at Gloucester we should cause further delay. Then raise the West Midlands, join with Cheshire and march on the Capital which is now denuded of regulars. But Churchill's devilish cavalry might succeed in delaying our march ; thus allowing Feversham to catch us up. In any case his marching powers will be superior to ours. On the other hand the cavalry though they have worried us have not succeeded in delaying our advance yet, and breaking the Keynsham bridge again would delay them. This course is feasible and offers big results.

(3) *Attack Churchill.*—This is tempting. It makes good use of interior lines, but the time has gone by for this ; his troops are daily gaining moral ascendancy ; surprise attack, owing to his ubiquitous cavalry, is out of the question ; and he has been reinforced with more infantry and guns.

(4) *Attack Bath.*—It is now almost denuded by Feversham ; its capture should be easy ; it would raise our prestige ; it would cut off the Royal Army from London. But, it would allow Feversham and Churchill to unite ; it would delay my future operations ; if we are to decline a fight we must get well away and find “ pastures new,” thereby probably extending the revolt and increasing our strength.

(5). *Move into Wilts.*—"Pastures new." Inhabitants are fairly well disposed to us, and have promised a reinforcement of 500 horse, which is the arm we are most in need of ; the Royalists will be cut off from London and be forced to countermarch ; a panic, leading to a revolt, may ensue in the Capital.

Solution.—Monmouth rejected courses (1) and (2), probably for the reasons given. He was personally in favour of course (2), but his officers were so strongly opposed to it that he did not press it. The fact that the troops' boots were wearing out was advanced as one reason against a long march. There remained (4) and (5). The advance into Wilts was undoubtedly the soundest, but if Bath could be induced to surrender *en route* without delaying his march appreciably, so much the better. In any case little would be lost by the attempt. Monmouth therefore decided to move into Wiltshire, possibly taking Bath in his stride.

Comment.—Though his premises were not quite correct, (the Royal Army was not concentrated in Bristol) the course he himself wished to take appears to have been the soundest. Failing that, perhaps a Napoleonic stroke against Churchill would have been best. In any case Monmouth can be fairly criticised for giving in to the opinion of his officers against his own better judgment. But it is not clear on what grounds Lord Wolseley states "the capture of Bristol was the last chance upon which Monmouth had any right to calculate."

When the course adopted is ultimately followed by disaster there are always people who hasten to assume that that course must be a bad one ; it is easy to mistake *post hoc* for *propter hoc*. In the case in point the course adopted does not appear to be unsound. Admittedly it was a gamble, but the whole campaign was in its essence a gamble, and (for all we know) to have adopted some other course, such as an attack on Bristol, might have only hastened his doom.

Narratives.—Once his course was decided on Monmouth acted promptly. Setting out as soon as it was dark he marched along the south bank of the river. Halting on the hill to the south of Bath he sent in to demand its surrender. The bluff failed ; the Royalists were evidently strong in the city. So, wasting no more time on it, Monmouth continued his march for 7 miles to the south-east, and halted for the night at Philips Norton.

Feversham meanwhile was countermarching along the north bank to Bath, where his three regular battalions joined him.

Churchill sending his cavalry in pursuit of Monmouth, took his infantry, for some unaccountable reason, towards Bristol. But on the way he received an order directing him back to Bath. Here the two wings of the army joined forces that evening. The united regular army now consisted of 700 cavalry, 200 infantry and 8 guns, besides militia.

Comment.—Monmouth was fully justified in not delaying before Bath. He had given his opponents the slip, and should profit by it to the full. Unfortunately, his march was terribly slow; the raw state of the troops and the bad state of the road are amply sufficient to account for this.

Feversham did the right thing as soon as he was apprised of Monmouth's manœuvres, and showed a sound instinct in consolidating his forces. It must be remembered that his troops had been thrown piecemeal into the campaign. There was a complete absence of regular organisation, staff, or service of information and communications. In fact it is astonishing how quick and accurate the collection and dissemination of intelligence was. The thanks for it are chiefly due to Churchill's superb cavalry.

But if Feversham did the right thing, what are we to say of Churchill's course of action? Whereas earlier in the campaign he had studiously forborne to split up his force, now, when everything pointed to pursuing the same policy, he abandoned it. Though fully aware that the rebels had gone east he separated his cavalry and infantry and marched with the latter in the opposite direction. It is only people whose judgment is blinded by Marlborough's future glory that will attempt to justify such conduct. The result was inevitable—a countermarch; and it is no thanks to Churchill that his infantry did not have an extra 14 miles to do that day.

Monmouth had for the moment outwitted his opponents and placed himself between them and London. Feversham may, of course, have taken a light view of it, and likened the Duke to a beaten fox, which having failed to make its point begins dodging aimlessly about hedge rows. If he thought so he was soon to be disillusioned. At any rate he could feel that, with his army now concentrated only 7 miles from the enemy, and having evidently the legs of them, time was on his side; and that provided he took all reasonable precautions the game was now in his hands. His plan was simple—to follow up

Monmouth till he could bring him to battle. Simple; but in war the simplest *ceteris paribus* is the best.

And Feversham was to have his wish a bit sooner than he expected.

Narrative.—July 7th.—Feversham drew his army up on the outskirts of Bath and sent cavalry forward to obtain information of the rebels. Information was received from inhabitants that the latter were still at Philips Norton. The General accordingly decided to advance, but at the same time required more certain intelligence. He therefore despatched a troop of Household Cavalry with orders to locate the enemy definitely by drawing their fire. He followed them up by a force of 2 troops Dragoons and 500 foot under the Duke of Grafton. So here we have the most modern formation of an advance guard in little. It can be put in this form:—

Advance Guard.

Commander—Duke of Grafton.

Composition.

Mission.

A. G. Mounted Troops. 1 troop Household “To locate the enemy.”
Cavalry.

Van Guard. 2 Troops Dragoons. { “To pursue the rebels and
Main Guard. 5 Coys., Infantry. { hold them in play till the
main body can get up.”

The Household Cavalry fulfilled their mission; the enemy were still at Philips Norton and their fire was drawn. The advanced guard then came up and fulfilled their mission too, to the letter.

Monmouth was on the point of marching off, but the A. G. pinned him to his ground.

Monmouth now excelled himself. The approach to the village was along a narrow hollow lane. He had previously erected a barricade in this lane, and he proceeded to make it the pivot of his line. He garrisoned it in strength, lined the hedges in prolongation of it with musketeers, and kept the remainder of his force, including all his cavalry, in reserve.

On the sound of the firing Feversham came forward to reconnoitre for himself and form his plan—quite “according to Cocker” and to all the promotion boards one has ever attended. As a result of his reconnaissance he decided to reinforce the advance guard with one

company of infantry, and put the whole force under the command of Lord Churchill.

But meantime Monmouth was delivering his counterattack. It took the form of a mounted and dismounted enveloping movement on the hostile flank. This onslaught met with the success it deserved; the advance guard was almost surrounded and the Duke of Grafton who had lost his horse cut his way out with difficulty.

Feversham then sent forward some cavalry who relieved the situation somewhat and allowed Churchill's troops to extricate themselves and fall back. Monmouth pressed his advantage, but in the nick of time the main body came up, and deployed into line of battle. The Royal Artillery was hurried forward and brought into action as expeditiously as the heavy ground and poached up lane would allow. The rebel artillery followed suit, Monmouth siting 2 guns in the lane and 2 on a neighbouring eminence. The artillery contest then commenced and for 2 hours it continued in the pouring rain. By that time it was 4-30 p.m. and Feversham had given up hope of getting forward that day. Giving out as his reason that he had no tents, and no billets available for his troops, he broke off the battle, and withdrew his army 4 miles north-east, to Bradford on Avon. His casualties amounted to about 200, say 5 per cent. of his force, so Philips Norton may fairly be dignified with the name of battle. The rebel casualties were less than half the Royalists.

Comment.—Here was a surprising result! If the reader has been with me, we have just agreed that all Feversham had to do was to bring Monmouth to battle and that “provided he took all reasonable precautions the game was in his hands.” Well here not only had he taken all reasonable precautions but he had conducted the operation like ‘a book.’ His whole procedure might be quoted as an illustration of “F. S. R. Volume II” in its treatment of the conduct of an advanced guard action. Note the following—Strengths of A. G. approximately 25 per cent. of the force,—its composition in three parts—the instructions given to it, to the A. G. mounted troops a definite question to answer, to the A. G. a definite mission; it has to *fight*, therefore it includes infantry. Note his personal reconnaissance—his prompt reinforcement of the A. G.—his appointment of a definite commander when several units became involved—the cavalry on the flank waiting for an opportunity to go in—the deployment

of the main body—the pushing forward of the artillery to prepare the position for the assault.

And yet.....and yet.....Two hours elapse, and the Royal Army of England turns its back on a few rebels. Bluff and boldness and a “stiff upper lip,” as so often before and since, had won the day. Monmouth cannot be praised too highly for his conduct of this, the penultimate battle fought on English soil. Remember he was on the point of marching off when his vanguard was suddenly assailed. In an instant, like lightning, he came to a decision whether to accept battle, and if so, how. He decided aright; and he acted aright.

Feversham failed in that most essential quality as a General, tenacity of purpose. It may perhaps be advanced in his favour that if he had been hard put to it he would have continued the fight; but time was on his side, and he was fighting “with the gloves on”. Had he continued the battle he would almost certainly have won it. His preponderance in artillery would have had its effect against troops that had never experienced gunfire; his fine cavalry would have probably administered the *coup de grace*; the rebel army in its retreat would have lost all cohesion; and Sedgemoor would have been rendered unnecessary. Note also that the problem of billets would have been automatically solved—Frome would have been at his disposal.

Narrative.—Feversham having abandoned the field, Monmouth resumed, or rather entered upon his march, and reached Frome that night.

July 8th.—Both armies rested. Both armies had need of rest after the incessant marching of the last ten days; and the Royalists were expecting reinforcements.

Feversham was now completely in the dark as to the intentions of Monmouth. The two most likely objectives appeared to be Bristol or London. To counter both of these possibilities, he proposed splitting up his army again and detaching Churchill to block the road to the former while he himself blocked the latter. He was saved from this folly by the intelligence which Ogelthorpe sent in from in front of Frome, that Monmouth intended making for Warminster. He accordingly changed his plans and, with the object of keeping between the rebels and London, he marched on July 9th to Westbury. Here he was joined by valuable reinforcements—the artillery from

London, 5 companies of Dumbarton's Regiment, and (best of all !) tents for his troops. The latter rendered him more mobile, as being now independent of towns to billet in.

But Monmouth had not moved from Frome.

Comment.—Here comes a psychological study, the impact of one mind upon another. Monmouth, by his clear-cut movements and resolute action at Philips Norton, had acquired the ascendancy over Feversham's mind. Thanks entirely to this he continued to hold the initiative ; it was a present from his opponent, who we have seen was fearing new offensive moves, either against Bristol or the Capital. As a result, although he believed himself in an inferiority of one to three, Feversham was on the point of committing the egregious blunder of splitting his forces again. In this event both his wings would have lost contact with the enemy. The fact is, he did not put himself in the position of his opponent. Had he done so he would have formed a much truer picture of the situation of the rebels.

Let us consider what this situation was. It is admirably summed up by Taylor in the following passage, and every count included in it could have been deduced by Feversham. "The rebels were in no mood of exultation. The abandonment of the design on Bristol ; the failure at Bath ; the retrograde nature of the movement on Frome ; the knowledge that the Royal Army was concentrated ; the sight and sound of its formidable Artillery ; the physical exhaustion induced by fighting and marching in heavy rain ; had depressed and demoralised these untrained soldiers. As many as 2,000 are said to have deserted between Philips Norton and Frome. Such discipline as had hitherto existed was entirely relaxed ; and plunder and license became the order of the day".

Monmouth encountered still further disappointments. He received no encouragement from the inhabitants of Frome. A convoy of arms and stores which he was expecting there had been captured ; and Wiltshire had evidently little to offer him. Further he now heard that Argyle had failed completely in Scotland ; Royal troops had landed at Sheerness from Holland ; and the projected rising in London still hung fire.

Thus it came about that at the very moment when Feversham was picturing him framing designs on London and Bristol, Monmouth was actually contemplating a dash to the coast and escape to Holland !

And this misreading of the situation was chiefly due to the impact of a firm mind, and the actions it inspired, upon on a weaker one. What a valuable lesson for soldiers! Compare Jackson's mental attitude in his retreat from Kernstown, "I think I may say I am satisfied"; or Wellington at Toulouse after receiving a rebuff from Soult, "That seems no good—Well by G—I must try something else", or Beatty at Jutland when a third of his squadron was blown up "There seems to be something wrong with our ships to-day. Turn two points to port", *i.e.*, closing with the enemy.

It is true that Feversham in his report to the King on the 7th described the enemy as "a company of vagabonds"; but this company of vagabonds had inflicted on the Royal Army two casualties for every one it had received; and Feversham's own subsequent actions belie his words.

Narrative.—*July 10th.*—Monmouth, having abandoned his projected flight (if he had ever seriously entertained it), decided to try his fate in the west once more. Hearing that many recruits were assembling in Bridgewater, he set his face for that town, and reached Shepton Mallet at nightfall.

Feversham conformed, and marched to Frome.

<i>July 11th</i>	.. Monmouth to Wells. Feversham halted.
<i>July 12th</i>	.. Monmouth half-way to Bridgewater. Feversham to Shepton Mallet.
<i>July 13th</i>	.. Monmouth to Bridgewater. Feversham, <i>via</i> Glastonbury, to Somerton.
<i>July 14th</i>	.. Both armies rested; but the Royal Cavalry approached Bridgewater and reported the bridge destroyed, and the town being placed in a state of defence.

During the march Monmouth lost more men by desertion, including three of his chief officers. On the other hand, his march had not been in the least molested by the enemy.

July 15th

..Feversham marched to Western Zoyland, where being only 4 miles from Bridgewater, he selected a strong encampment protected on three sides by a broad, boggy ditch called "The Bussex Rhine."

Comment.— Monmouth could hardly hope for another Philips Norton, as long as the Royal Army remained united. As there seemed no reasonable prospect of Feversham dividing his force (though as we have seen, this did nearly happen) and as his own army was daily diminishing in size he had no option but to try and restore his fortune in the west country.

Feversham's pursuit appears to have been leisurely, but, (1) weather and roads were bad, (2) time was on his side, (3) being obsessed with the danger threatening London and Bristol he probably took care to keep well to the east of the rebels once he had lost direct contact, fearing lest they should slip back past him again. But even so, it is hard to see the reason for his detour to Somerton; by following the exact route taken by Monmouth he would more effectually have covered Bristol and his march would have been shortened. Probably he counted on a further retreat to Taunton, or even a flash for Lyme Regis.

Feversham has been criticised for not harassing the rebel retreat with his cavalry, as Churchill had done in their advance. But the conditions were altered, there was no longer any particular object in delaying their march, there were only 600 Royal Cavalry, and it was important to have them intact for the coming knock-out blow.

Narrative.—*July 15th.*—Monmouth continued putting the town into a state of defence in order to mislead the enemy into believing that he intended shutting himself up there.

In the course of the day one Godfrey, a farmer of Western Zoyland, reported that the Royalists were so confident and careless as to precautions that a night surprise upon them was practicable. Monmouth accordingly made personal reconnaissance—from the Church tower with a spy glass.

From here he could clearly make out the camp, and he noted how widely separated the three armies were. Godfrey later reported that the camp was not entrenched. Monmouth summoned a Council of War, and we will put its imagined deliberations into the form of a problem.

Problem VI.—What should Monmouth do?

Appreciation.—Force available 3,500 men, 4 guns.

Royalists probably about the same, 8 guns.

Our own men dispirited with the retreat;

Enemy probably elated.

But, (1) Our faint hearts have fallen out, and only good grain is left.

(2) The very elation and confidence of the enemy would facilitate a surprise attack. We have information that they have thrown caution to the winds. The fact that we have destroyed the bridge and fortified the town should add to their lack of vigilance.

Course open.—

(1) To remain at Bridgewater.

(2) To retreat further S. W.

(3) To dash north for Gloucester.

(4) To attack the Royalists Camp by night.

(1) Passive defence will not win over the Kingdom.

(2) Retreat will only stave off the evil day. Few reinforcements are to be got by going further west.

(3) The road to Keynsham is open. It should be possible to dash through and make Gloucester, join forces with the Cheshire contingent and dash for London where 3,000 men are reported waiting to join us. This course offers possibilities, but the Royal Army would have ample time to get back and bar the way. Also it would be approaching its own reinforcements—seven battalions.

(4) Our information being so complete and good this seems feasible. It is certainly risky, but if successful will be decisive. It is now a case of “neck or nothing.” The very boldness and improbability of it increases its prospects of success. Such a thing could hardly be expected and “a company of vagabonds.” Our troops are countrymen, accustomed to finding their way in the dark and they are on familiar ground.

Solution.—Course (4).

Comment.—Previous to the receipt of Godfrey’s report Monmouth had favoured course (3) and had in fact made preparations for it. But his alert mind was quickly responsive to altered or unexpected circumstances as we have noted more than once before. He

was quite ready to scrap a carefully prepared plan in the light of further information. And he was right then if ever to take risks. Surprise was in favour of him ; time was in favour of the enemy. In all this Monmouth showed a true conception of the principles of war, and his venture nearly ended in success. In fact Lord Wolseley, who appears to lose no opportunity for disparaging Monmouth is obliged to admit. "The plan was well conceived and it nearly succeeded."

The only criticisms that can be directed against him are—

- (1) That he need not have entrusted the fate of a Kingdom to the word of a farmer. One of his own officers could have got up close enough to discover the Bussex Rhine protecting the camp, or one of the seven Western Zoyland men serving with him could have informed him of it.
- (2) That he did not fully appreciate the tremendous difficulty of a night march followed by a night attack. Difficult enough for trained soldiers, it is almost an impossibility for irregulars, as another Stewart was to learn to his cost exactly 60 years later. So many things can go wrong ; the guide loses his way ; units get mixed up ; the march is delayed, and betrayed by daylight ; a horse neighs ; a mule stampedes ; a shot is fired by an overwrought musketeer ; all these things have happened time and again, and always with fatal results. Only the most meticulous staff work and an army of highly trained regulars can hope to achieve a Tel-el-Kebir.

It is not my intention to describe the battle of Sedgemoor. The story is sufficiently familiar. But the following points are worthy of note :—

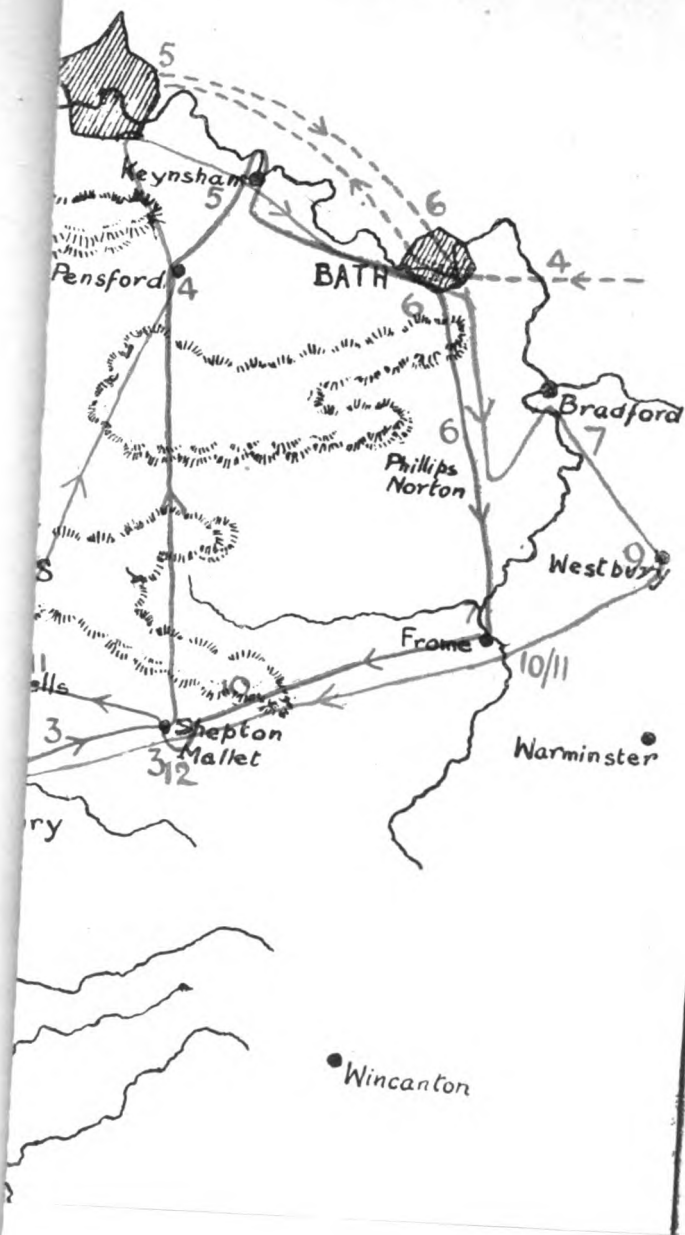
- (1) Monmouth's devoted 3,500 must have been of fine quality and moral to march out with quiet assurance and with such excellent march discipline (not a match was allowed to be struck, etc.,) that they completely eluded the hostile patrols. It was a Sunday, and on Church Parade their martial ardour had been worked up by the preacher.
- (2) The thick mist spoilt the effect of a moonlight night, making it very difficult to find the way.

- (3) Contrary to the generally accepted story, Feversham took adequate precautions, but was let down by his cavalry patrols; and once the battle was joined he conducted it with considerable skill and energy.
- (4) The open ground of Sedgemoor facilitated the approach by night being undetected. There are few such open spaces in England outside our training grounds.
- (5) The coolness of the regulars when suddenly surprised was quite in accordance with the best traditions of Tommy Atkins.

Conclusion.—This campaign, though so brief, contains numerous instances of good generalship on both sides.

This, though not generally realised, is hardly surprising when it is remembered that the three chief protagonists had been trained to war under the great Turenne.

Churchill's conduct has been universally acclaimed; Feversham showed most of the characteristics of a General; but the Duke of Monmouth towered head and shoulders above them both. It is impossible to find fault with any important decision of his; and when we consider how cruelly he was tricked by fortune, how inadequate were his resources, how unskilled his staff, and how untrained his men; yet how bold, resourceful, penetrating and enterprising he proved himself, we shall agree that the headsman's axe deprived England of one of her heaven-born commanders.



ARMY SUPPLY AND TRANSPORT IN THE OLD INDIAN WARS.

By

COLONEL H. C. WYLLY, C.B.

No single point of military research presents greater difficulties to the student of Indian warfare of the latter part of the eighteenth and early half of the nineteenth centuries, than does that dealing with the methods adopted and system followed for the supply of our armies in the field. In the very early days of British rule in India, such military forces as were maintained were purely garrison troops, set down in posts upon the seaboard or upon such very brief lines of communication as were required, and to only a very limited extent were these regarded or employed as offensive troops. Under such circumstances it was perhaps only to be expected that, on the rare occasions when unusual conditions obliged local commanders to take the field, they moved out accompanied by all the native followers whom they had gathered round them during years of passive occupation, and attempted to carry with them such supplies as were needed for their comparatively short marches by hiring bullocks and drivers through the agency of contractors; while in those days such cereals as formed the staple food of the Indian soldiery appear to have been easily purchasable in the country traversed.

These methods seem to have answered well enough for minor operations, conducted at very short distances from the sea-base; and it was probably not until the Mysore wars that it began to be realised that the old system—which actually was no system at all—could lead to no abiding strategic results in wider operations carried out in a country which for long past had been so systematically ravaged, that all supplies for an army operating in Southern India had to be brought by sea to Madras from other parts of the Peninsula, as had also the baggage animals employed for their transport.

While, however, the difficulties of supply and transport had thus enormously increased, no real attempt seems to have been made seriously to grapple with the question of the native followers. By this time the armies of the East India Company operating in Mysore contained a larger proportion of British troops than ever they did before; and since it had always been understood that no army

could take and keep the field in India unless accompanied by a wholly disproportionate number of servitors, known as native followers—even when such an army was wholly composed of Indian soldiers—it appears to have been a matter of general and natural acceptance that English troops required an even larger retinue to keep them in health when on the march or when in camp. It was thus almost inevitable that in the Second Mysore War and in those which followed it, the horde of followers, who had to be protected and fed, was quite out of proportion to the number of fighting men the army contained ; for instance, in March 1781, a British force operating about Cuddalore contained 6,000 native soldiers, while the followers amounted to 15,000. In August of the same year Sir Eyre Coote had under his immediate command 2,000 Europeans and 10,000 sepoy, but the followers totalled 31,000, a number which early in the following year had risen to 40,000.

Probably in those days only the very severest and most drastic prohibitory measures could have had any effect in reducing the number of followers considered absolutely necessary for the maintenance of an army in the field, especially when that army contained a by no means negligible proportion of white soldiers—men and officers ; and some idea may be gathered of the very great latitude permitted in the provision of private followers, by stating that in August, 1782, when the difficulties of supply could only barely, and at great sacrifice of mobility, be in some measure overcome, the number of private followers for whom rice was allowed to be drawn from the public stores was fixed as under—

Major General Stuart, or Second-in-Command	..	50
Colonel Lang, or officers of that rank	..	40
Field Officers, each	..	40
Captains, each	..	20
Subalterns, each	..	12
To every 100 European Soldiers	..	14
To every 100 Native Soldiers	..	10

This certainly somewhat excessive regard for the needs of the individual soldier seems to have existed for very many years longer, for more than sixty years later we find General Sir Charles Napier laying down in a memorandum, he drew up, on “The Baggage of the Indian Army,” that “the Europeans of an Indian Army require more

baggage than any other part of that army, and that as the climate renders a great deal of baggage necessary, care must be taken that, in a zeal to reduce the quantity of this great impediment to war, we do not over-reduce and create suffering. The line which divides *necessaries* from *luxuries* must be drawn with much care, for in India luxuries and necessities are near akin, especially among the Europeans."

For twenty years after Coote's day the system of army supply and transport remained unchanged; agents or contractors were still employed to collect and produce, when and where required, the rice and bullocks needed for the maintenance of an Indian Army in the field, and Major Thorn, of the 25th Light Dragoons, gives us in his *Memoirs of the War in India*, an account of all that appertained to an army operating under Generals Lake and Wellesley in the Second Mahratta War—of the extraordinary elements which contributed to swell its numbers. "It is obvious," he writes, "that in a country where no regular supplies can be depended upon, all necessities must be provided beforehand, or obtained from a train of followers whose desire of gain attaches them to the service. Hence the line of march increases these appendages to an army, particularly where an enemy, like the one to whom we were opposed, spreads devastation in every direction for the purpose of cutting off the means of subsistence.

"The camp-followers in such a case become exceedingly numerous, and may be fairly estimated at ten persons to every fighting man; so that where the force consists of 10,000 soldiers, there will be about 100,000 non-combatants, consisting of the following descriptions; first an attendant to every elephant, of which valuable animals there are several hundreds, for carrying the public camp equipage, besides some thousands of camels, to every three of whom there is at least one attendant, with a proportionate number of tent lascars who, as their appellation imparts, are employed in pitching and striking the tents. . . . Every horse, whether of the cavalry or not, has in addition to the rider, for the most part two attendants, one who cleans and takes care of the animal, and the other who gathers forage. . . . Besides an immense number of draught bullocks for the use of the artillery park and heavy ordnance carts, to every three of which there is at least one driver, large droves of Brinjarree bullocks, from 80,000 to 100,000, are employed in carrying grain. . . .

“An army is further numerically increased by the servants which every officer is under the necessity of employing to take charge of his live and dead stock, for though the private European soldier receives, besides his regular allowance of arrack, rations of meat from the government contractors who drive large flocks of sheep for that purpose, the officers must provide their own poultry, sheep and particularly goats to supply them with milk for their tea. . . . The attendants, therefore, which these services render expedient may be estimated at 10 to a subaltern, 20 to a captain, 30 to a field officer and so on in proportion. Such are the immediate adjuncts of a marching force in the east; but even this is not all, for besides the women, who follow the fortunes of the officers and private soldiers, there is a mixed multitude termed the bazaar people consisting of merchants and peillars.”

An Indian army of those days must indeed have been an extraordinarily cumbersome machine, but Major Thorn seems to offer something of an excuse for the recognised presence of these vast hordes of hangers-on, by stating that they were especially skilled in detecting the presence of concealed or buried grain, and were very useful in bringing these unofficial supplies into the camp market.

It was not until the end of the year 1809 that any serious attempt seems to have been made to establish a Commissariat Department as a branch of military organisation in India, described in a general order as “a system of victualling the European troops and for the provision and maintenance of Army cattle by agency instead of contract.” Herein, however, the Military Department appears to have made the mistake of attempting too much, with the result that the new organisation was burdened with many matters, some of which at least seem to be rather outside the scope of the department; and it is hardly to be wondered at if the general result was to leave things very much as they were before.

The following are some of the matters which the new Commissariat Department was to embrace:—

1. The victualling of European troops and the provision of rum for store.
2. The provision and feeding of elephants, camels and bullocks.
3. The provision of horses for cavalry and horse artillery.
4. The supply of grain for the above.

5. The provision of boats for the transport of troops and stores.
6. The provision of petty stores for magazines at different stations.
7. The supply of draught or carriage bullocks, hackeries or carts when required.
8. The supply of quilts for European troops.
9. The charge of public ferry boats at military stations above Allahabad.
10. The supply of Bunjarrah bullocks and grain for troops or for store.
11. The provision of galloper harness and saddlery.
12. The supply of timbers, planks and half-wrought materials for the Gun Carriage Agency and camp equipage, military stores, etc.

The new department was to be under the control of a Commissary-General with a Deputy Commissary-General and several Assistant Commissaries ; but, as we learnt from Wilson's *History of the Madras Army*, it was in 1816 laid down that the officers of the Commissariat Department were to be required to furnish security as under, the sums being lodged with the Accountant-General before the officer appointed assumed charge of his office :—

				Rs.
Commissary-General	..	..	..	50,000
Deputies	..	..	..	30,000
Assistants	..	..	..	20,000
Deputy Assistants	..	..	..	10,000
Sub-Assistants	..	..	..	5,000

The Commissary-General was allowed a very considerable latitude in the carrying out of his multifarious duties, for it was laid down that “the manner of making the different supplies is to be left entirely to the discretion of the Commissary-General, who will, of course, avail himself of the means which contract or agency may afford, as to him shall appear advisable”.

No attempt seems to have been made, either at this time or for some years to come, to restrict the number of followers which might accompany an army into the field and every member of which had to be protected on the line of march and fed on arrival in camp ; for when, in the winter of 1838, it was decided to send a force from India into Afghanistan, the Southern portion under Sir John Keane,

containing Bengal and Bombay contingents, consisted of no more than 9,500 fighting men, who were accompanied by the enormous number of 38,000 followers, while their supplies were carried by 30,000 camels !

The baggage of this portion of the army was on a colossal scale, considering the difficulties of the country to be invaded and the scantiness of supply therein. No really stringent orders regulating baggage were issued by the Commander of the force, who contented himself with merely cautioning all concerned against the provision of large tents or inflated establishments. This mild caution does not, however, appear to have been regarded, for Sir Henry Havelock, who was serving as A.-D. C. to the General Officer Commanding the Bengal portion of the Army of the Indus, admits to having himself had eighteen servants, while another officer had as many as forty. The 16th Light Dragoons even took a pack of hounds with them on this campaign !

In the early days of the assembly of the force destined to march into Afghanistan, it had been intimated to the Commissariat Department by Army Headquarters that "failure on the part of the political officers would not be held a valid excuse in the event of a deficiency of supplies for the army being felt in the course of military operations". Supplies, however, of all kinds, and especially of forage, were scarce, and came in but slowly ; between the Indus and Shikarpore the camels dropped dead by scores, while as the army moved on everything had to be brought up with it, since not one single day's supplies was obtainable between Shikarpore and Kandahar from the country traversed. On arrival at Quetta a portion of the army perforce remained there, the fighting men on half and the followers on quarter rations.

The regulation forage allowance for cavalry horses was five seers (10 lbs.) per diem, but on the 9th April, General Thackwell, commanding the cavalry, wrote in his diary :—" Our short rations of one seer and sometimes not any corn, are fast destroying the cavalry. Fifty horses of the three regiments were cast and shot at Quetta and seventeen horses have died to-day of sheer weakness". Again on the 11th we read :—" Seventy horses died yesterday from want of food or mere exhaustion". This is hardly to be wondered at for the Commissariat supply arrangements had hopelessly broken down, the cavalry horses having at one time been fed for 26 days in succession entirely on green forage with no grain.

The total loss in animals in the whole army in this campaign—the first Afghan War—totalled 32,483, a wastage practically wholly due to the defects and failure of the supply arrangements.

The break-down, hardly any other word can describe it, of the arrangements for transport and supply in the operations conducted in Afghanistan, prompted General Sir Charles Napier to address a letter to Sir J. Hobhouse, the President of the Board of Control, on the subject of “The Baggage of the Indian Army”, in which he advocated the establishment of a Baggage Corps, composed almost wholly of camels, his idea being that in a regularly enlisted and maintained Corps of this kind there would be a trained supervision, whereby there would be less confusion on the march and better care taken of the animals at all times. The faults of his scheme appear to be that the Corps proposed was too small for use in any but quite minor expeditions, that there was no suggestion of possible expansion, while the old evil of the native followers’ question remained untouched.

In the short Gwalior campaign and in the two Sikh wars the army seems to have been better supplied than ever before, but this remarkable improvement does not appear to be due to any change in or betterment of the general system of supply and transport, but largely, if not indeed solely, to the energy, zeal and extraordinary genius for organisation of a native contractor, one Lalla Jotee Pershad, of whose methods something may be learned from the very detailed account of the criminal proceedings which in after years were taken against him for malversation of accounts and general robbery of the Government.* From a perusal of the proceedings in the local papers of that date and in the files preserved at the India Office, the following curious facts emerge, and these throw a considerable and interesting light on commissariat methods of those days.

At the end of 1848, when the Punjab campaign was about to open and the army was actually assembling at Ferozepore, it appears up to the 15th October previously no arrangements whatever had been made for the collection and distribution of supplies, and Major

*The Court of Directors ordered an inquiry to be in the first instance held by a Mr. Denison, a Civil Servant, who was then directed to act as prosecutor; but on its coming to notice that Mr. Denison had borrowed large sums of money from the Lalla, the prosecution was then entrusted to Mr. E. M. Wyllie, B. C. S., the father of the writer of this paper. The defendant was represented by a barrister, Mr. John Lang, and was unanimously acquitted of the charges. It is pleasant to record that the Lalla bore no malice, and during the mutiny was instrumental in succouring several Europeans who were in danger from the mutineers.

Ramsay, the Joint Commissary-General of the Army, was then and there empowered to accept contracts for the supply of grain and carriage of all kinds and to exercise control and supervision over commissariat arrangements for the troops in the field; and in this hour of need he sent post haste to Meerut and summoned to his aid one Lalla Jotee Pershad, a Government *Gomashita* or Commissariat Agent, *then drawing a salary of one hundred rupees a month!*

On his arrival Major Ramsay urged, and indeed insisted, upon his at once taking over a contract for the immediate supply of 80,000 bullocks required for the carriage of grain to the North-West Frontier. Lalla Jotee Pershad was, however, unwilling to undertake the commission, and under the circumstances which came to light in his subsequent trial such unwillingness was not unnatural. It seems that he had been employed in a similar capacity in the First Afghan War, the Gwalior and the Sikh campaigns, his accounts for these had not up to that date been adjusted, and though the sub-contracts made by him with smaller agents had long since been terminated, his claim against the Government in all amounted to no less a sum than £570,000 more than half a million! He had tried for many years to obtain a settlement of his claims, but in vain, and for some little time he refused all Major Ramsay's blandishments and declared he would have no more dealings with the Government.

The Commissariat Department felt, however, assured that it could not do without him, and he was offered a title of honour and immediate settlement, upon which he took the field, accepted a contract to supply the number of bullocks required, at the rate of Rs. 3 per mensem per bullock as far as Amballa and Rs. 4 per mensem per bullock beyond that station; and, having made his arrangements and consulted with his various sub-agents, he proceeded himself to Ferozepore, managing everything so admirably that the army was able to march off on the appointed date.

At his trial he called many Commissariat officers in his defence and these, practically without exception, spoke in the very highest terms of his services, of his extraordinary energy and ability as a contractor; while he produced testimonials from Lord Gough, Sir Dudley Hill and other well-known men, stating that on several occasions the Lalla had advanced large sums of money from his own private resources for the purchase of food for the British army engaged with the Sikhs, and that "ample supplies, even when in an enemy's

country were always ready and the troops never had to be put on half rations ! ”

In the South African War of 1899-1902, it was said of a British Commissary-General that he was “the best Commissariat officer since Moses ”; but it may be questioned whether Lalla Jotee Pershad had not earned this eulogium more than half a century earlier, by overcoming infinitely greater difficulties.

Even in our later Indian Wars the question of transport and supply has been a burning one, and difficulties have had to be fought against such as few British Service Officers and only one Continental soldier have ever realised. It was the older Von Moltke who, once overhearing certain German officers decrying the difficulties, the lessons and the conduct of our “ Small Wars ”, remarked :—“ Ah ! but gentlemen, you seem to forget that British officers do not go to the front in first class carriages ! ”

“ALL TOUCH HAS BEEN LOST.”

By

“SPEAR.”

Just as officers going to war in 1914 found that many of the tricks of the trade learnt so laboriously in the period 1899 to 1902 had been totally forgotten, so in 1926, the essential duties of an arm, well known throughout the service in 1913, have been lost sight of.

We are continually told that the enemy has slipped away in the night and all touch has been lost with him.

I maintain that this is not only due to bad patrolling but to the use of the wrong sort of patrols. All kinds of patrols were well understood until the rules of open war had been lost in the foulness of the trenches.

After a long march or fight, infantry patrols cannot be expected to push round the flanks of a force in depth and get behind. All they can do is to watch the front which is of little use; in other words infantry patrols cannot picquet the enemy's force, and the picqueting of the enemy's force was Field Marshal Lord Haig's great doctrine, when Inspector-General of Cavalry some 25 years ago.

This picqueting can only be done by cavalry and carefully nursed cavalry at that.

The procedure was as follows:—

As evening drew near, and the main body of cavalry was withdrawing, officers who had been on patrol all day and had seen the country, took command of patrols mounted on horses, that had been nursed for this particular duty, and were sent, some to get on the flanks, and some in rear of the enemy. Sometimes it was possible to ride round with care and place a standing patrol on each of the main roads behind the enemy. Sometimes a couple of men had to crawl dismounted through the outpost line, and make for the enemy's guns or transport to see if they showed signs of moving.

Having got through, and a good patrol can nearly always get through, to his position, the question is how can he get his information back. There are many ways—relays of riders, and motor bicycles; coloured rockets, combinations arranged before the start; the lamp, if the map is studied before the start and likely positions for the

lamp are watched by our own outpost line, or from some prominent position, whose bearings are known.

Soon, it is to be hoped, when the value of old fashioned cavalry patrols is realised again, all these patrols will be provided with wireless or wireless telephone sets, for they will save much horse flesh and enormously decrease the time required for the passing of the information.

There can be no doubt that one patrol behind is better than fifty in front, for a force unless demoralised, will send away its transport and guns long before its infantry retires and if the guns and transport are caught in the act by a cavalry patrol, the slowest relay should be easily able to get the news through in time.

Up to 1914 the junior ranks of cavalry officers had little time for rest or sleep on manœuvres. They were active, doing their proper work, i.e., picqueting the enemy and the enemy was not lost touch with.

There are always flanks in open war, even if a lake or river has to be swum, or a bad hill climbed. These flanks can be rounded and the enemy's line of retreat reached at night but only by cavalry.

How should a patrol leader be treated ?

No patrol leader can expect to do all that is possible unless he is told all that is known of the enemy, so that he has an idea in his head as to the direction in which they are most likely to advance or retire ; nor will his labours be the most productive unless he is told what his exact task is and made to work on the lines of question and answer.

Before being sent out the young patrol leader should not be asked if he understands what he is to do but should be definitely asked 2 or 3 times what his task is, so that there is only the faintest chance of his failing in the maintenance of the objective and wandering away on some wild goose chase.

How should such a patrol be equipped ?

As they may be attacked by enemy cavalry and have to burst through, a revolver or sword is necessary ; for the ordinary cavalry man the latter is the better arm.

Rifle and bandolier are essential.

Saddles should be stripped and only 2 feeds, 2 spare shoes and a canvas bucket carried, for men and horses after the first twelve hours

must live on the country ; that there is no difficulty in this for B. O.'s Indian troops and horses, even in a country like Baluchistan, was proved by long distance patrols during the Western Command *manœuvres*.

In cold climates, great coats should be carried or the men will become bemused in the early hours of the morning. The blanket under the saddle is sufficient for the horse.

The patrol leader must have a good pair of field glasses or a telescope, an oil compass, electric torch, maps, message forms and pencils ; he and two of his men should have numnah knee pads to enable them to crawl in comfort, their knees are not as hard as those of the infantry, and need protection. He should carry a light pole about 7 feet long, shod with rubber at both ends ; this pole will enable a patrol to cross bad country on dark nights in far quicker time than if it was not used. It is also useful when feeling the way across or searching for fords or tracks across inundations.

All patrols should wear rubber shod boots. Before starting the patrol leader and N.-C. O.'s should study the map and impress the lie of the land on their brains so that every branch road, stream, village and hill is recognised in the dark and their whereabouts known even in a country new to them.

If there is time, the country to be traversed should be examined with a telescope ; it being clearly understood that the best is unlikely to be got out of a patrol if they are not in touch with the enemy before dark. The task should be thoroughly impressed upon all men of the patrol so that if the patrol is unlucky the survivors will know what is required of them and be able to carry on to the best of their ability.

The position of the relay posts should be actually shown to the patrol as they pass them, so that no mistake can arise ; and the men and horses of the relay must be actually under cover or they will be discovered by the searchlights of enemy armoured cars, and shot at with machine guns.

There is an expression "to keep tapping the front" and this is apt to mislead the young patrol leader.

It is certainly necessary to tap the front to find a way through or round, but once that way has been found more information will be gained by the patrol leader and 2 men hiding away from the horses on

a road, track or nullah behind the enemy than by occasionally bumping a picquet to see if it is still in position, not that the patrol will be hit at night except by bad luck.

Again it is not from the enemy's outposts that the most valuable and earliest information will be gained but from what is happening further back on the roads and tracks.

Good infantry should always be able to slip away from patrols only watching the front.

By now the patrol leaders are round the enemy and obtaining information which will be valueless unless it reaches the director of the cavalry patrols in time for him to act on it and this is not a matter of minutes. He should, therefore, tell the patrol leaders the latest hour at which information will be of use to him, and clearly explain whether he requires negative information or not during the night. This is important as the men of a patrol are limited in number and will be wasted in bringing back negative information if it is not required ; on the other hand it may be required hourly and steps must be taken to get it through.

The proper employment and utilisation of a cavalry patrol is not the lackadaisical and simple thing that it is generally considered to be, it requires much thought by the director of the patrols and a perfect understanding of his mind by the patrol leaders and for this reason the director should give his directions personally to the patrol leaders and not leave it to some staff officer ; should this be impossible the cavalry leader should be told the task by the director and directed to send out the patrols.

When the above duties of cavalry are again in operation we shall no longer hear the dismal wail "All touch has been lost."

In June last, during the period in which the cavalry was doing training in the vicinity of "P," this battalion gladly accepted the offer of the Officer Commanding Cavalry to co-operate in night operations. The lessons learnt by all ranks were of the greatest value and during the discussions which followed the various operations, the statement was frequently made that the action of a certain cavalry patrol was impossible and that the whole patrol was "wiped out." To demonstrate to all ranks the difficulty of hitting moving horsemen at night, whether they are operating singly or as a patrol, the following simple experiments were carried out.

Practice No. 3 represented the other side of the picture, i.e., the possibility of hitting such patrols when they stand still within certain distances of a piquet, as was done on one occasion during the above mentioned operations.

NOTE.—

*Factors in favour of
cavalry.*

Back ground was the rifle butts and not, as would usually be the case, the sky.

*Factors in favour of
piquets.*

1. Light of a half moon.
2. The place where the target would appear was known to the firers.
3. Direction of its movement was known.
4. The target, representing a man on a horse, was a silhouette, having a sharp outline and was therefore more visible than a natural one.
5. The absence of excitement which would ordinarily affect the shooting on active service.

One section fired, while the remainder of the battalion observed.

1st Practice.

Two men firing 1 round each at 1 running horse.

Target.—One running horse target, with a run of 15 yards at various ranges.

Rounds fired, 2 at each distance.

<i>Range.</i>			<i>No. of hits.</i>
50 yards	..	..	0
40 "	..	..	1
30 "	..	..	0
20 "	..	..	2 (one on man).
10 "	..	..	1

2nd Practice.

Section of 6 men firing one round each at 1 running horse.

Target.—Same as in 1.

Rounds fired, 6 at each distance.

<i>Range.</i>				<i>No. of hits.</i>
50 yards	..	..	..	0
40 "	..	..	..	1 (man).
30 "	..	..	..	0
20 "	..	..	..	0
10 "	..	..	..	2

3rd Practice.

Firers.—Section of 6 men firing rapid.

Target.—5 targets representing cavalry patrol standing facing section.

Targets up for 5 seconds.

<i>Range.</i>				<i>Rounds fired.</i>			<i>Hits.</i>
50 yards	..	..	..	15	..	..	1
40 "	..	..	..	12	..	..	2 (men).
30 "	..	..	..	13	..	..	7 (2 men).

4th Practice.

Same as 3, but with Véry Lights.

<i>Range.</i>				<i>Rounds fired.</i>			<i>Hits.</i>
50 yards	..	..	..	14	..	..	4 (1 man).
40 "	..	..	..	14	..	..	6 (1 man).
0 "	..	..	..	12	..	..	9 (3 men).

5th Practice.

Buck-Shot.

<i>Range.</i>	<i>Target.</i>	<i>Rounds.</i>			<i>Result.</i>
20 yards	1 running horse.	1	..	..	8 or 10 shots on target—all high and most on men.
20 "	1 standing horse.	1	..	..	8 or 10 shots on target—all high and most on men.

On the completion of the practices a few rounds of tracer bullets were fired and it was noted that the majority of shots went high and, in the case of moving targets, behind.

The experiments were repeated when there was no moon and the results were practically identical, except that when tracer bullets were used it was noted that most shots were going low.

It should be noted that though the target was hit it does not necessarily follow that either the man or horse was killed.

"THE GREAT DELUSION."

BY

NEON.

A Criticism by "Adastral."

The publication of "The Great Delusion" has raised a storm of criticism, as well it might; so far, however, I have not seen a really satisfactory reply. Perhaps this is not remarkable when the size of the book is realised; there are so many quotations and references to be further explored and new ones added that any thoughtful and careful reply must in itself attain the size of a volume.

The claims of the author are so remarkable and so against the current of world opinion, that his (or her) contentions and claims need something more than the short note that is merited by the more general run of publications.

The author lays himself (we will assume a 'he' to save space) open to one very obvious general criticism. Bias must be expected in a work of this nature, but bias should be founded on a fair examination of the whole question and not just one side of it; one should have fair bias, if such a thing is possible. The author has set out to prove his case from his case, that is to say, that every argument developed, every quotation cited and every extract given illustrates only one side of the picture—the author's side; for this reason the whole book lacks conviction to any one with an open mind. If the author had taken both the pros and the cons, and let him emphasise the cons if he likes, and had then attempted to prove that the whole of aviation is waste of time and money, well and good and we might not have agreed with him, but at least we should have given him credit for honest convictions. It is only too easy to damn indiscriminately, it is harder by far, to prove a case in which the pros and cons are equally strong.

The second general criticism, which is very intimately bound up with the first, is that the author has taken short sentences and paragraphs from innumerable speeches and articles and has made them fit into his text without giving the whole context. Admittedly it is difficult to quote in full every time, but it is most unfair to select isolated statements and make them fit in to prove certain contentions; by doing this it is quite possible to assert that A has made a speech

proving that black was white, when in fact, nothing was further from his intentions. Here again the author has discredited his statements by his very method of trying to be convincing.

There is a final general criticism which deserves mention. A vast deal of the evidence which the author has triumphantly mustered is from American sources ; we should not quibble at this were it not for the fact that the author has used American evidence about British flying during and after the war, to prove that the whole thing is waste of time. Surely British evidence on an eminently British matter would have been more convincing. This evidence is mainly from the "Hearings" Committee, which if one remembers correctly, was an enquiry to decide whether the American Air Service should become a separate arm. The evidence given by the older services and frequently quoted here, was definitely biased with the view of preventing the separation of the air service : it was intended to prove that the air services were definitely Auxiliaries to the other services.

The author has never quoted the fact that three successive British Governments have all enquired into the status of the Air Force and all agreed that it is essential to maintain it as a separate service—surely this is very significant ?

These quotations form one of the weakest links in the author's chain of evidence.

It is now proposed to deal with the general contentions put forward against flying, in some detail.

The book begins with a very long and unconvincing preface by Mr. Pollen. Mr. Pollen is a well known critic of naval matters, but it is doubtful whether he has the knowledge or the qualifications for delving into the realms of air criticism : the preface is too long, in any case, and does not contribute anything to the author's arguments, which would have been its only excuse for absorbing 13 pages !

The first nine chapters are devoted to a detailed criticism and a wholesale condemnation of airships : the author sums up his views in the following words " It seems almost unnecessary to state that in the writer's opinion all airship work at the expense of the State should cease ; that constructional work on the R100 and R101, the building of hangars, of mooring masts and gas-producing stations, should be entirely abandoned so far as the State funds are concerned, and means

should be taken to recover from the wreckage of airships and their paraphernalia what little can be salvaged for the benefit of the Exchequer”.

Controversy will rage over the merits and demerits of airships for many years to come, for the simple reason that so far the airship has not had a definite chance to prove itself ; even so controversy raged, and in fact still rages, in regard to the submarine and the capital ship. The author claims definitely that the airship has been given its chance and has failed badly. He bases his claims on a number of facts which he has manoeuvred to prove his case. He claims that airships are at the mercy of the elements and that the effect of adverse currents of considerable strength will so retard the progress of the airship, that she will run a grave risk of being unable to reach her base through lack of fuel : he goes on to assert that the present airships have so little reserve of lift available for commercial use, that the Government's figures for the R100 and the R101 are grossly overestimated : that thunderstorms are a very grave menace to the safety of the airship in flight : that the navigation of airships is hampered by the impossibility of knowing with any degree of accuracy the exact position of the ship at any time, without actually sighting landmarks or ships which can furnish accurately the airship's position : that airships were useless in war and proved most expensive, and the majority of their flights ended in disaster : finally, that nobody knows very much about the design and construction of giant airships and that we are, in consequence, courting disaster by continuing our present experiments.

It is only possible to make a few more general remarks on these opinions, in the space at our disposal. In the first place, it can be asserted quite definitely that airships have not yet had a fair trial ; it is equally certain that what they have accomplished in their short and chequered career, is work of sufficient merit to warrant more extended research ; it is also quite obvious that no civil firm is going to undertake to carry the burden of the expense of these researches as a speculation ; finally, it is also patent that until it has been proved beyond all shadow of doubt that airships are of no value from a military, irrespective of a commercial point of view, the British Empire cannot afford to ignore them. It is all very well for the author to say let airships be developed commercially like every other new invention, such as the railway train and the motor car ; in making such proposals

he is deliberately ignoring those very properties of aircraft that make it impossible to ignore them, where the safety of the country is concerned. Aircraft have provided an entirely new problem in time and space calculations, and it is their ability to ignore, to a great extent, geographical and physical features, that invests them with a special significance. The train is of very great value to the nation, commercially and militarily, so is the motor car: at the same time you cannot drive a train across the English Channel or the North Sea and proceed to attack your enemy with high explosives or gas; the scope of the motor car, though wider than that of the train, suffers from the same inability to achieve the dimensional movement.

The airship has great potentialities for destruction; it is freely admitted that it has many and grave drawbacks, but these do not detract from these potentialities as yet, since airships are still in their experimental stage. It is quite easy to argue that because an airship is designed to cruise at 60 m.p.h., when she meets an air current of 60 m.p.h. against her, she will stand still, and that the airships the Government are building are too slow to be safe—steamships suffered from the same difficulties in their early existence and it is only after years of progress, gradual and systematic, that we now have giant vessels capable of steaming at nearly 30 knots. It may be impossible to design, ever, an airship capable of attaining a flying speed of 200 m.p.h., this remains to be seen, but logically this will be only a systematic development, and when such speeds have been attained, the airship will have just such a margin over the forces of nature as the giant sea vessels of to-day; it should never be forgotten that even with all their reserves of power these vessels are forced to heave to, on occasions.

It is perfectly true that airships have not a great amount of spare lift for commercial or military use; again this is not surprising in the present stage of their development. The history of the progress of land and sea transport will show very much the same state of affairs, though not to quite such a marked degree, perhaps.

Accurate navigation of an airship is not so easy as on board ship, because of greater speed and liability to far more excessive drift, but we think that the author has very much exaggerated the degree of inaccuracy and even his extracts from the log of the R34 when crossing the Atlantic do not carry conviction in the direction he hopes. The

R. 34 set out to fly from East Fortune to New York and back ; the R. 34 accomplished this mission successfully, despite the fact that she "did not sight a single vessel in the open Atlantic on her voyage to America, and on her return journey, one only": despite the fact also, that severe atmospherics prevented the use of directional wireless communication for considerable periods together. The author has tried to prove that because aerial navigation is so inaccurate and directional finding wireless so unreliable, the steering of a course from one place to another becomes a matter of "joss"; if the R. 34 could accomplish successfully her twin journey, and the Norge could be steered over the North Pole, to say nothing of the German Zeppelin that flew from Germany to New York, in the present state of development of aerial navigation, surely there are some hopes for the future. Nor does the author make his case any stronger by quoting hysterical wailings from the diaries of German Zeppelin personnel during the war.

A few of the points only, have been briefly discussed, but we would again emphasise two points that the author has studiously avoided. No Government can afford to ignore a potential weapon of destruction, which is capable of arriving over its capital and its main military, naval, air and industrial centres, with little or no warning and for a nefarious purpose, without taking steps to investigate thoroughly, the possibilities of this weapon : no Government especially a British Government, one of whose most important functions is the guardianship of the communications of the Empire, is justified in condemning such a weapon while it is still in its experimental stage, on evidence mainly collected during a very great war when the weapon, such as it was, partially failed to fulfil the hopes of its progenitors : finally we would remind the author of a fact he seems to have forgotten, or again studiously ignored, that England is within easy reach and comfortable range of all types of aircraft possessed by two powerful, first class, continental nations, one of whom is smarting under a heavy military defeat and a peace treaty sown with the seeds of incitement to fresh war.

Civil aviation comes in for attack in the next chapter and vast quantities of statistics are quoted in regard to Imperial Airways Ltd., to prove that commercial flying is not a paying proposition. Other examples are given, which do not seem to be very much to the point, such as the American world flight, the R. A. F., flight to South Africa, Major Franco's flight to South America, Sir Alan Cobham's

flight to Australia, and so on. In regard to the R. A. F. flight to Cape, the author makes the following comment, which is considered to be typical of his methods of proving that civil aviation is waste of time and money ; "At very great cost four machines aggregating 1,800 h. p. conveyed eight persons a distance of 14,000 miles in 114 days, giving a continuous average speed of 5 m. p. h. It is stated that the machines kept to a scheduled time-table. With the same horse power, but at comparatively trifling cost, two tramp steamers running to scheduled time could have conveyed 4,600 tons of cargo to a similar distance in half the time." We have not checked the author's figures and will assume them to be correct, but does this prove that civil aviation is of no value ? The flight was undertaken in the first place, for purely service reasons. It was intended as a test of the reliability of the engines and machines under varying climatic and geographic conditions ; to try out the route to the Cape ; to show the flag and to co-operate with troops in out of the way places. No night flying was attempted and speed was not a consideration. On the basis of this argument it would be possible to prove that a camel could have done the journey almost as quickly and incomparably cheaper. In any case such comparisons are pointless in trying to estimate the value of such a flight. The aeroplane visited places which the tramp steamer could not approach nearer than hundreds of miles ; places hundreds of miles from even a railway. Each form of transport must be complementary to the other and useful in its own special sphere.

The author again tries to prove that civil aviation has reached its zenith, that no more improvements can be expected and that therefore it has proved definitely to be a failure. He backs up this sweeping statement by quotations from Sir Alan Cobham on his flight to Australia, "the whole flight had been carried out without any delay due either to machine or engine, so that from a mechanical point of view the aeroplane was as near perfect as any form of transport could be." Other examples are quoted to prove the same thing. We are perfectly certain that when Sir Alan Cobham wrote those words, he had no idea of the construction and use to which they would be put and we cannot for a moment imagine him endorsing the author's contentions. The proof of the pudding is in the eating and we notice that the author has foreborne to quote any statistics from Germany or Australia, both of whom have an extensive and expanding network of civil airlines. It is very easy to prove that the continental air lines

do not pay ; they are competing with a very efficient land and sea organization, over such short distances, that the saving of time is of very little account. Air travel, at present, has certain disadvantages and the general public are not going to additional expense to save some 2 hours, except in exceptional circumstances. Whatever the author may like to say in regard to the limit of progression having been reached in aircraft and aero-engine design, a statement which is manifestly ridiculous in view of the very short time that there has been for development, it is quite certain that with the introduction of night flying, the saving in time by using the air will be enormous ; it is an equal proof of the present undeveloped state of civil aviation that there are only two air services in operation at present, where night flying is regularly carried out, and has been carried out so far with complete safety.

The author contends that as civil aviation has reached the zenith of its powers and that as it has proved itself to be a failure, the Government should at once withdraw all subsidies. Civil aviation has not yet had the chance to prove itself, working as an efficient competitor to the existing means of transport, and certainly to quote continental air lines does not prove anything that has not been obvious for some time. When civil aircraft, operating over long distances and flying regularly by day and by night, and of such a size and capacity as to make them a commercial proposition, have definitely proved their inability to compete with the existing, and much slower, means of transport, then will be the time to condemn them ; we have not yet, not by a long way, reached such a period.

Next the author goes on to deal with “ Air warfare and the bombing of towns and villages ” and proceeds to try and demonstrate that :—

- (i) Aeroplane reconnaissance is unreliable.
- (ii) Aerial combats in themselves have no influence upon the advance of the Army or the ultimate result of the war.
- (iii) Bombing is inaccurate and therefore can only be indiscriminate.
- (iv) Bombing attacks on the non-military population (including women and children) are deliberately intended, thereby, it would be thought, offending civilised opinion and international feeling, (if not international law).

- (v) Such bombing is inherently expensive, is utterly ineffectual so far as winning the war is concerned, and that all air operations absorbing, as they must do, enormous man-power and material and entailing an appalling loss of life and wastage of machines, can only be carried out at enormous cost.

Since some of the statements made in this section are so remarkable, a few notes on each paragraph seem desirable.

Dealing with paragraph one first, the author bases the majority of his contentions on the limitations imposed on aircraft by bad weather and also their inability to observe objects on the ground when concealment is available. It is quite obvious that certain conditions of weather will hamper *all* kind of movement: the disabilities produced by thick fog or mist are not peculiar to aircraft at all—low clouds may make the operations of aircraft more difficult and more dangerous, but they will not necessarily stop flying. Sir Alan Cobham recently flew across India and Burma and back, in the middle of the monsoon he was delayed a little in his journey, but considering the conditions, especially in Burma, the delay was not very great. Because an American squadron did not leave the ground for a week, in France, in June 1918, (*vide* page 167), why should the rest of the flying world be subject to wholesale condemnation? Because Admiral Craddock was defeated at the battle of Coronnel we did not abolish the Royal Navy. Aircraft have their definite uses and value as reconnaissance weapons: by means of photographs and reports much valuable information can be obtained, both by day and by night (the author is unaware, apparently, of the existence of the parachute flare): it is freely admitted that where possible, aircraft reports should be verified, but is this not so with every kind of intelligence? and, after all, what is aerial reconnaissance but another link in the chain of intelligence in the field.

In the next division the author deals with air combats and he is very obviously not sure of his ground. The whole section, which is very short, is a series of quotations from American sources: the arguments advanced are to the effect that "Stunt fliers and pilots are no use for reconnaissance, nor have they any influence upon or control over the infantry on the ground below. Air combats between opposing planes or squadrons achieve nothing but the destruction of life and aeroplanes." A statement of this sort, backed up merely

by quotations showing the number of casualties sustained at certain times, is manifestly of little value. It is just as logical to say that a fleet action achieves nothing but enormous loss of life and material and has no effect on the war in general—in other words the battle of Jutland was a pure waste of thousands of lives and millions of pounds. Single seater fighters are not employed normally for reconnaissance, (the author appears to visualise them in this rôle); their job is to defeat the enemy's fighting aircraft and his bombing formations and thus confer freedom of movement on our own air forces. If the enemy achieves command of the air, he is at liberty to bomb our factories, base depots, lines of communication, dumps, etc., and the destruction of these vital objects will immobilise, ultimately, the infantry, who will be deprived of ammunition, food, reliefs and all the manifold necessities of warlike action. What control does the author expect fighting aircraft to exercise over the infantry—he seems to visualise the infantry being drawn to victory by aircraft with sky lines! It has been shown, however, that they do exercise a very great influence over the infantry's ability to fight a battle at all, and that they have their rôle in war, just as any other weapon.

Aerial bombing is the next victim and the author has set out to prove that as it is quite impossible to bomb accurately, the results are the indiscriminate destruction of inoffensive people and material. All his evidence is again culled from American sources and we must frankly admit that it is not particularly convincing. The main reason for the uselessness of bombing, appears to the author to be the fact that "there is only one place up in the air where a plane can be if it is going to hit the mark", and that "bombing from an aeroplane is a problem of navigating to a three dimensional spot, and not a question of aiming"....."The term bomb sight is in fact an absurd misnomer. It has no connection whatever with a gun sight".

Judging from these statements, the first of which is quite correct and applies equally well to ship gunnery or firing from any moving object, the author seems to visualise aerial bombing as merely a question of steering over a town and dropping the bombs, though how the pilot or observer is to know exactly when to release the bomb is not explained. It is admitted that accurate aerial bombing is a science, even as naval gunnery, and as such, scientific instruments must be used. Since the war the development of such instruments has gone on

apace and provided the personnel are trained, accurate results are the rule rather than the exception : such bomb sights permit of bombing being carried out, up, down or side to wind : before the target is reached accurate observations are made in regard to speed, drift, etc., so that when the target is reached the bomb sights are correctly adjusted. Air bombing has in fact, one advantage over naval firing, in that the range of attack is known, as accurately as instruments can give it, before the target is reached.

Statistics are quoted on page 181, in regard to British bombing trials against battleships in 1923 and 1924 : they are quoted, needless to say, from an American source : we have not the means at hand to verify them, but from recollection they appear inaccurate. In any event, the author has counted only direct hits, when in fact, a bomb dropped close alongside is much more likely to sink a battleship than one dropped directly on it, especially if it has a delay action fuse. In actual point of fact experiments we have carried out, show that what is known as a "near miss" would not in all probability actually sink the battleship, but it would so injure it as to make it a "lame duck". The vessel would, in consequence, be forced to fall out of the line, and having done so, she is of no use and becomes a comparatively easy target for enemy submarines. The author has entirely ignored the torpedo : torpedo attacks by aircraft have been shown to be very effective indeed and even if the vessel is not actually sunk at the time, the same effect as has just been quoted for bombs, is likely to be obtained. If the author wanted to give an illustration of battleship bombing from America, he might with advantage have quoted the American naval experiments, when a battleship actually was sunk by aerial bombing, and in a short space of time : the bombs used weighing 1,000 lbs. each.

The next section on bombing is concerned presumably, with its inhumanity—in other words, that the deliberate bombing of non-combatants is intended. There is no doubt that there has been a very great deal of wild talk and writing about the use of the aeroplane and the airship to bring the enemy civil population to their knees by wholesale bombing. To anyone who takes the trouble to think the problem out, it must be obvious that no war is going to be won by concentrating armed forces on non-military objectives : not only do you expose your own military and also non-military centres to

the enemy, but you are yourself wasting effort, on missions the accomplishment of which will not further the general plan of war. It is a violation of first principles. Nor is it likely that any country will possess a force of sufficient size to allow the necessary dispersal of forces to take place. At the same time great wars have now assumed a national aspect and it cannot be denied that civilians, or rather non-active combatants—in that they are not armed with lethal weapons, although they may be actively assisting in their production—will be liable to attack from the air, if working in factories, etc., engaged in the production of munitions. No country is going to set out deliberately to bomb women and children, there is no point in it: if they live and choose to remain in the war area, however, they will be exposed to certain war risks, and the war area must be considered as the farthest limit of operation of the enemy forces. Many women and children were killed during the last war, by the land and sea forces, not deliberately, but because they were in the danger zone. To prove his contentions the author has quoted an extract from a despatch on the R. A. F. operations in Waziristan in 1925. He prefaces this extract with the following statement: "The intention to employ air power against non-combatants, including of necessity women and children, has been carried into effect in the Waziristan campaign". Having taken the trouble to quote from this despatch, the author might have noted the following sentence in paragraph 4: "A warning was also issued that long delay action bombs would be used, and the tribes were advised to remove the women and children from the danger zone should operations be begun". We do not know what more the R. A. F. could have done short of advertising the times of all raids! This operation, which the author has most fortunately quoted, was successful, although the task set to the Royal Air Force was most difficult: not only did they succeed in achieving the results required, but other tribes who were not concerned, also "came in". The triumph, if we may use such a word, was that with only 11 certified casualties (to the enemy) the desired result was obtained: the moral casualties, by far the most important, must have numbered hundreds. The same warnings are given always in Iraq and the citing of a portion of a speech of an M. P. about "using the Air Force as a weapon to be used in terrorem", does not carry any conviction in face of the facts.

The final condemnation in regard to aerial bombing is in the last section, where it is alleged that "aerial bombing" while inherently expensive, is utterly ineffectual so far as winning the war is concerned.

This section sets out to prove, by means of vast statistics and endless quotations, that the cost of aircraft, the shortness of their life, the expense of the bombs and the lack of results obtained, definitely rule out the air as a factor in war.

The type of argument used is instructive. The author first states that "it was estimated that such a ship (a battleship) might be disabled—not sunk—if four heavy bombs were dropped directly on the ship, or very close to her. One modern aircraft carrier—the U. S. S. *Saratoga* or *Lexington*—is estimated to cost £ 9,000,000, and it is constructed to carry 72 aeroplanes, costing an additional £ 300,000 ; thirty six bombers, carrying each one bomb, and thirty-six pursuit planes to protect the bombing planes. Under war conditions, in any kind of weather, with anti-aircraft guns on the battleship and freedom of manœuvre the chance of one hit would be very doubtful—two hits would be remote. Allowing, for the sake of argument, the good fortune of one hit in action, no great harm would be done to the battleship, but the effort would have cost £ 9,300,000 in capital expenditure on craft alone ”.

We do not know where the author got his figures from for the cost of an aircraft carrier, they appear to be excessive since a modern battleship only costs about £ 6,000,000. Using this same method of argument, however, it can be proved that every shell fired by a battleship costs £ 6,000,000 plus the price of the shell. The author further assumes that it is impossible to sink a battleship by bombs—it has been proved that this can be done—we would add also that there are such things, as torpedo carrying aircraft. It is interesting, however, to examine this statistical argument a little farther. If 36 aeroplanes costing £ 4,000 each, could sink one battleship costing £ 6,000,000, surely the balance would be heavily on the side of the air. The cost of the machines is £ 144,000 and each carries a crew of 2. Besides the loss of £ 6,000,000, the battleship carries a crew of over 1,000 men : it is unlikely that even as many as 50 per cent. of the aircraft would be disabled, but even if they were, the loss of life in the sinking of the battleship, would be a great deal more than 36. In addition, the aircraft could be replaced in a few weeks, the battleship would take 2 years. Furthermore the loss of the

battleship would go a long way towards cancelling the £ 9,000,000 cost of the carrier.

There follows a short chapter on French experiences in Morocco and Syria, as proving again the futility of air action. It is not proposed to say very much about this chapter; anyone however, who has studied the air aspect of these two campaigns cannot but be impressed by the fact that the French did not employ their air forces to the best advantage, far from it. It would appear that they endeavoured to model their tactics on those used in the Great War, and it is obvious that in the type of warfare with which they were confronted such tactics must prove ineffectual. Furthermore, anyone acquainted with this type of warfare, knows how difficult it is to find suitable targets, especially of the human variety. You can destroy the enemy's villages easily, with the exception of the towers, but they can be quite easily rebuilt. The author however, has been delivering an attack on the independence of the Air Ministry. The cause of the French failure lies mainly in the fact that air forces were operating as a part of the army: there was no Air Staff to direct the air service on a sound strategical plan. The result was that the air forces were mishandled and frittered away. Our own experience has proved quite definitely however, that air action against tribesmen can be effective, and what is more it is humane. An example from the Waziristan despatch is well worth quoting in this connection. In paragraph 32, Sir Edward Ellington states that "It is not likely that the actual casualties were many nor is it desirable that they should be, provided that the enemy can be brought to terms without."

In "The defence of London and anti-aircraft gunnery", which compose the next chapter, the author has shown again that his knowledge of air strategy is not great and we do not think that he can have learned much by reading—and quoting—some of the speeches and writings cited in this chapter.

The author writes "It must be clearly understood that the citizens of London and elsewhere in this country cannot legitimately complain if subjected to bombing from aircraft—the new method of warfare—since it is intended on the outbreak of war to send out from this country members of the Auxiliary Air Force for Home Defence to bomb enemy property and territory; in truth it may be said that we invite bombing attacks by such definitely provocative intentions and preparations."

If the enemy is a great and civilised nation with air forces, "a hideous cycle of strokes and counter-strokes is opened up. There is in fact complete reversion to barbarism."

The author has quite rightly quoted statements which say that the aeroplane is "a shockingly bad weapon of defence against an aeroplane" and that it is in fact "an offensive and not a defensive weapon". Bearing this in mind it is not hard to realize the basic principle of air defence, which is in fact, offence. The author however, appears to visualise this offensive as taking the form of indiscriminate and wholesale bombing of innocent civilians, though how he imagines this is going to prevent enemy aircraft from raiding England is not stated. It is an accepted fact that once an enemy air force is allowed to take the air on an offensive mission a certain proportion, probably a large one, will reach its objective. When the size of the manoeuvre area is considered—it is practically unlimited—it is not hard to understand the difficulties which confront the defenders, even when ample warning is available, which in the case of London will most certainly not be the case. The best way in which the enemy raiders can be stopped with any degree of certainty, is to attack them at their base while they are on the ground and immobile; added to this the source of supply, the factory, must also be attacked. In other words, in air warfare prevention is the only sure cure. This is the reason why we are building up a Home Defence force on offensive and defensive lines and this surely is very well known today.

In the second half of this chapter the author states that anti-aircraft gunnery has reached such a state of perfection as to provide a practical antidote to air raids. While we admit that the science of A. A. gunnery is advancing steadily, it cannot be said, with any degree of truth, that it will stop, quite definitely, raiding air forces. As has been pointed out already, once let your raiding aircraft approach their objective, a large proportion are going to be able to drop their bombs and A. A. guns are not going to stop them, though they may make the air very uncomfortable if they find the correct range—always a difficulty.

The statement quoted in support of the perfection of A. A. gunfire, attributed to Captain Rath U. S. A., is unfortunately most inaccurate and shows the author's absurd bias and distortion of statements, as members of the R.A.F. Independent Bombing force will

bear out. "We were warned by the English never to go over the city of Metz because anti-aircraft was very active and accurate there. Therefore we would avoid the town and fields where we knew they were."

In the final paragraphs the author touches on gas and we are afraid that we cannot agree with his statements. He says "The true case against gas, as against all freak warfare, is fortunately based on futility: to produce and transport by aeroplane a volume of gas that is anything but insignificant in comparison to the vast spaces to be dealt with, requires an effort and outlay out of all proportion to the advantage that may, with extreme good fortune, be obtained."

Figures may not be quoted, but we can assure the author that the spread of gas from a comparatively small bomb is astonishingly great and that a very large area could be contaminated by a squadron of 12 aeroplanes. The indiscriminate gassing of areas from the air would be futile in any case, and naturally, selected targets will be attacked, having regard to geographical and physical features. Each gas-discharging medium has its special sphere and is more effective when used in one way than another; the aeroplane is merely one of the mediums and will fit into the general scheme where it will be most useful.

In his final chapter the author, for all his misapprehensions, does touch on a vital subject, and we find ourselves in harmony with his views on several occasions. He points out the grave danger that may face this country on account of the growing consumption of oil fuel and the comparatively minute proportion of the supply that comes from British territory.

We agree entirely that this is a situation which no one in the Empire can regard with equanimity. The author's solution is "to get back to coal," of which we possess vast supplies of the best in the world. The author suggests that by cutting out flying we shall lessen the consumption of oil fuel and in consequence our dependence on foreign sources of supply. Why doesn't he suggest also that we should stop all motoring?—in fact let us all go back to nature's methods of progression—walking and riding.

We are afraid that the author is indulging in pious hopes—you cannot stop progress nor can you prevent logical development, and it is not right that you should. Oil fuel has become so popular because

it was found that you could design a form of propulsion that was lighter, smaller, more compact and far more efficient and economical than steam. Oil fuel has come to stay, but as the author says, by all means let us get back to coal, of which we have large supplies, but let us get back to it in a more convenient form ; in other words let us discover in coal a substitute which can replace petrol and can be used in the same, or an improved, design of internal combustion engine.

The book ends with six appendices which are all concerned with airships and they need no special comment.

“ Neon,” in his quest to pierce what he seems to regard as the fog of unreality in regard to the air, has produced a remarkable book. All unwittingly—perhaps he actually wrote it with his tongue in his cheek—he may have done aviation a big service in that he may make people regard the whole subject from a practical and common sense point of view. There is no doubt that many enthusiasts, rather misguided enthusiasts, have done infinite harm to the very cause they are trying to further by indulging in the most fantastic theories and giving vent to the wildest speculations. The novelist, earning his bread and butter by writing “ thrillers,” has done much disservice. “ Neon ” by his very presentment of so biassed a case, biassed, not on sound argument, but on one-sided and often doubtful evidence, will act as a corrective to these uncontrolled speculations, and perhaps we may yet live to thank him.

He has taken infinite pains to substantiate his side of the argument ; it is important therefore, that a well considered and less biassed reply is framed in due course ; such a reply must inevitably take some time to be evolved if it is to be really effective and must be backed up by conclusive evidence, if such is possible in regard to a profession that is in its swaddling clothes.

Finally, we can assure “ Neon ” of one thing : aviation has become an international matter and what is more, a matter that is regarded very seriously by all nations. In other words, there is scarcely a country in the world, from Afghanistan to Chile, that is not spending money on military and civil air forces ; are they all wrong ? Are they all wasting money ? “ Neon ” would have it that they are. We disagree profoundly. Whoever is right one thing is certain. The British Empire cannot afford to make a “ gesture ” and eliminate all flying from its imperial dictionary so long as others—potential

friends or enemies—continue to show their faith in this newest form of transport. It is regrettable, but even "Neon" himself does not deny, that at the present moment, aircraft of all types are capable of transporting killing matter from one place to another in a very much shorter time than any other known form of mechanical instrument and with far less regard to physical features. Things being what we are we cannot afford to ignore them and whatever "Neon" may say we have got to face actualities. In conclusion we would advise "Neon" to read "The basic principles of air strategy" by "Squadron Leader."

DECISIONS AND ORDERS.

By

CAPTAIN C. D. MOORHEAD, M. C.

"The chief rôle of a commander is to make decisions" (F. S. R. 11, * 10, 4).

"Act swiftly and vigorously, without 'buts' and 'ifs' and 'fors.'" (Napoleon to Bessiere, Nov. 20, 1809).

"The first important factor for success in the attack is a sound and simple general plan, the second is good co-operation between the various components of the force ordered to put the plan into effect." (F. S. R. 11, 69, 10).

"An army depends for success on the combined efforts of its component parts." (F. S. R. 11, 26, 1).

"The object of an operation order is to bring about a course of action in accordance with the intention of the commander, and with full co-operation between all arms and units." (F. S. R. 11, 189, 2).

"Every commander must make sure that he understands the wishes and intentions of his superior." (F. S. R. 11, 10, 7.)

Great stress is now being laid on the importance of operation orders, both verbal and written, that they should be clear, concise and in the accepted sequence; other points on which stress is being laid are co-operation, co-ordination and rapidity of action.

To achieve a tactical success it is essential that the commander must be able to make a sound and simple plan, making fullest use of the application of these principles. But, and this is the point I want to dwell on, however brilliant the commander may be, his plan will fail and the opportunity of co-operation and co-ordination will go to waste, if he is unable to convey his decisions quickly and clearly to his subordinates, who in their turn must be able to convey clear and precise orders down to the most junior leaders affected.

A complete new chapter (Chapter 2) in Field Service Regulations is now devoted to the characteristics and principles of leadership and command. The essence of the chapter is quite clear; that a commander must have sufficient character to accept risks, and sufficient resolution and energy which to enable his decision, once made,

* Throughout this article India is taken as included in the term 'Dominions.'

to be carried through. History has proved the truth of this times without number. Compare General Burrows' methods at Kandahar with those of Lord Roberts at Kabul and Kandahar during the 2nd Afghan War. Blucher's magnificent effort at Waterloo is another excellent example; having been asked by Wellington for help to the extent of one corps, although his troops had received a severe handling at Ligny the day before, and he himself had been badly wounded, he replied that he would bring his whole army less one corps. His troops, thoroughly fatigued with continual marching for two days and with swampy ground through which they had to man-handle their guns, endured these hardships, being continually urged on by their stubborn leader, they arrived at Waterloo, in time, not only to fight but to win the day. Blucher had made his decision, and although everything went against him, he had the force of character and energy to achieve the almost impossible.

Lee, the Confederate leader, was another man with an indomitable will, who was not afraid to make decisions and to see them carried through. On his name being brought forward as a suitable candidate for the command of the Confederate Forces, a politician remarked "Who is this man Lee, I have never heard of him." The retort was sharp and to the point:—"Lee! Why his name might be audacity itself"—as events later proved; the outstanding masterpiece of his audacity was his decision and plan to fight at Chancellorsville.

A commander, having received all available information must then decide on his general plan, which should be sufficiently simple to avoid delay in execution and make for good co-operation between the components of his force. Napoleon said:—"The art of war is like everything else that is noble and simple—the simplest movements are the best"; and the first proviso of F. S. R. 11, 69, 10 is merely a repetition of this truth.

In making up his general plan, some of the most important decisions to be made by a commander are:—

The Attack.—He must decide on the point at which he will deliver the weight of his blow; whether he will employ penetration or envelopment or perhaps a combination of the two. He must decide on his artillery plan; whether concentrations or barrages are to be employed and the areas on which he requires such fire, remembering that barrages cause delay and eat up ammunition; whether the terrain

and means of communication call for guns to come under the command of infantry units and whether special anti-tank guns will be necessary. He must decide in the case of small forces, whether machine guns are to be brigaded either partially or totally or left with units. If he has tanks, how will he use them? Will they pass through the infantry, go ahead or act from a flank. He must decide on the strength and disposition of his reserve.

The Defence.—He must decide on the “Stopping Line” whether he requires advanced posts, if he does are they to withdraw or not and if so, at what time? Whether there is to be harassing fire, counter-preparation and counter-battery fire; on the expenditure of ammunition for defensive S. O. S. fire, and by whom it may be demanded. Does the situation demand that the machine guns should be under centralised control? He must decide on the strength and disposition of his reserve and on their tasks—this is most important, for if he fails to make a sound decision here his freedom of action will be jeopardised.

Then having made his general plan, he must arrange details of co-operation in conjunction with his technical advisers. He may require some technical advice as to the employment of tanks and artillery, but even here the final decision rests with him alone. Having received this advice and made his final decision, his plan must then be so clear in his mind that he can visualise the action of his troops so as to ensure that the plan is capable of execution. A battalion commander should be able to broadly visualise the action of each of his platoons and in some cases of his sections. Similarly a brigade commander, before issuing his orders, should be able to visualise the task he has set each company in his command. If he cannot do this, then he cannot be certain that he has set tasks capable of execution, that co-operation is possible or that he can expect to convey to his subordinates a clear idea of his plan.

Here, I think, we have come to the link between decisions and execution, namely the issue of orders. The commander now issues orders to his subordinates, giving them a clear picture of what he requires, and leaving to them the minor details of execution. As Napoleon explains, and he is emphatic about it, “there must be no ‘ifs’ and ‘buts’ and ‘fors’”. His orders must be clear and precise, otherwise he cannot expect his subordinates to convey his intention

clearly down the chain of command, or for the maintenance of full co-operation between arms and units. Frequently he will find it necessary to recall his subordinates, after they have made their reconnaissances, to arrange any final details of co-ordination, such as, in the defence, special areas calling for defensive fire, but here again final decision must be with him alone.

Napoleon said a commander must act swiftly, but what did he really mean when he made this remark? For success is also dependent on preparation and organisation, and these take time. It was he who taught us that rapidity of action in battle is to a great extent dependent on organisation. He realised the importance of the principle that "The number of subordinates with whom each authority is required to deal personally and directly must be limited" (F. S. R. 1, 2, 4) and, with this in view, introduced the chain of command. As a result he gained rapidity of action (mobility) and his success against the Austrians was to a marked degree dependent on this organisation.

The Austrian organisation only allowed for the commander-in-chief to issue orders direct to each individual unit.

A good system of issuing orders will ensure rapidity of execution, and it is for this reason that Field Service Regulations is so adamant on the importance of orders being issued in the accepted sequence and that each subordinate commander should be only given those orders that will affect his command.

Conclusions.—It is clear that a commander, who will not accept responsibility or who has not enough force of character to carry through his decisions or is unable to make any decisions is of little use.

It is also clear that a commander's decision may be excellent, even brilliant, but it is of little value unless a picture of that decision, in the form of clear and adequate orders, can be conveyed to the troops by which means alone co-operation between the various parts of his force can be maintained. In this way he influences the battle. Provided that quick and sound decisions are given, followed by good orders, rapidity of execution will follow; but this quickness and clearness must permeate every link in the chain of command, from the most senior to the most junior leader—the section commander and his equivalent—otherwise delay and uncertainty will follow.

These attributes of command give every individual an opportunity of knowing their commander's intention, and consequently, what is required of them. This in itself will raise the moral and confidence of an army.

It would be interesting to know how the British Army of today compares in this respect with the Expeditionary Forces of 1914.

During the 1914 operations were the decisions of the commanders conveyed clearly and concisely throughout the chain of command ? Did every commander clearly understand the wishes and intentions of his superior ? and did he act swiftly and vigorously on those wishes ? Was co-operation ensured ? It must be remembered however, before giving a judgment that conditions prevailing under peace conditions are very different to those conditions prevalent under the fog and strain of war. But it is very certain that only by constant practice in peace can any measure of perfection be attained in war, and the military authorities of today, realising that mobility and co-operation are the key-notes of success, do not intend to allow the importance of the links between decisions and execution to be neglected in our peace-training.

AN IMPERIAL ARMY.

BY

CAPTAIN H. C. DUNCAN.

It is laid down in Field Service Regulations that the accepted policy governing the organization of the Imperial Army is *inter alia* :—

1. That it must be suited to average, rather than to exceptional conditions.
2. That it must be capable of modification to suit the special requirements of any particular campaign.
3. That it must be capable of rapid expansion.
4. That the organization, equipment and training of its various component parts shall follow a general standard common throughout the Empire.

From the same authority we learn that “the conditions under which it (the British Army) may be called upon to place a force in the field vary from a world war to a small expedition against an uncivilized enemy.”

This is all very clear, but when we study the Imperial Army, we are unable to discover the common standard required by Field Service Regulations. Actually, there is very considerable diversity in the organization, equipment and training of the component parts. One is forced to conclude that the common standard is an ideal and nothing more. Now, ideals are excellent things, but if they are ever to become more than mere ideals, they require a driving force behind them.

It is fairly clear that no driving force exists behind the ideal of our Imperial Army. Why is this so? The reason appears to be twofold. In the first place, there is no authority in supreme command of the Imperial Army. In the second place, each Dominion is absorbed in its own affairs and is concentrating primarily on its own particular problems of defence.

Before we commence to examine these suggested reasons, let us glance back at our quotations from Field Service Regulations. These are very definite statements. They obviously refer equally to the nucleus armies of peace and to the expanded armies of war, since we are told that the Imperial Army must be capable of rapid expansion to meet the case of a grave emergency. Unfortunately we are not

told who is responsible for laying down the standard which all are to follow. We would appear to be justified in assuming that the army of Great Britain is the model which the authors of Field Service Regulations have in mind. Bearing these facts in view, let us examine the suggested reasons for the lack of a driving force behind the ideal of an Imperial Army, trained, organized and equipped on the same lines.

Firstly, the lack of an authority in supreme command. Although there is no such authority, it does not mean that we are doing nothing to co-ordinate and control the Imperial Army. On the contrary, everything that can be done, in accordance with the present guiding principles, is being done. There is the Committee of Imperial Defence. but this is a committee, and Field Service Regulations tell us that "unity of effort.....can be assured only by vesting the supreme authority in one man." There is also the College of Imperial Defence. This is an educational establishment and obviously not in a position to do more than study Imperial problems. There is also a Chief of the Imperial General Staff. Unfortunately the Dominion Governments do not take orders from him and he can only offer advice. An adviser cannot command an army. Towards the end of the Great War we had an Imperial War Cabinet but this no longer exists. There are most earnest efforts being made at liaison between the component parts of the Imperial Army. The Imperial General Staff is being steadily expanded, and the Committee of Imperial Defence is increasing the scope of its activities. Exchanges of officers are broadening sympathy between the different units of the Empire.

Without a supreme commander, however, real progress is difficult, though certainly not impossible.

The reason for the absence of supreme control hardly concerns us here. Everyone realises that, in Imperial affairs, political organization must precede military organization.

It is difficult to picture a supreme commander in peace time who would be in a position to dictate to the Governments of the Empire concerning the forces which guard their domains. Various schemes have been suggested whereby a greater measure of mutual understanding might be made possible. It is not the writer's intention to discuss these here. Some of the obstacles to this better understanding will, however, be brought out as we proceed. What does concern

us is that the Dominions do not always see eye to eye with the authors of Field Service Regulations, and that each Dominion is apt to work more or less on its own lines.

This brings us to the second reason suggested for the lack of driving force behind the ideal of the authors of Field Service Regulations, viz., each Dominion is concentrating on its own particular problems.

Surely this is natural enough. But how does it interfere with the attainment of a common standard? Simply because there is considerable difference of opinion as to the 'average' conditions for which we are to organize. Geographical position has no little influence on the view taken of these 'average' conditions, in different parts of the Empire. Proximity to Europe suggests to the General Staff in Great Britain, a war under European conditions, as being an average type of possible war. On the other hand, the authorities in India have their eyes on the frontier hills and expect their average problem to be a hill one. Similarly in other parts of the Empire, the problem nearest home governs their actions.

Now cannot this state of affairs be remedied? Cannot we have a standard pattern army in each of the countries of the Empire:—an army capable of modification to suit the special requirements of any campaign? To take a case at random, let us consider the sort of force which would be equally capable of taking the field in a world war or in a small expedition against an uncivilized enemy.

Earlier in this article we assumed that the authors of Field Service Regulations had in mind the British Army as the pattern which all were to follow. Now it is submitted that the British Army is not a suitable pattern for the other armies of the Empire. In the first place it is, to a large extent at present, an experimental force. In the second place, no very definite military contingency confronts it, as is the case with certain of the Dominions. Moreover it is a larger force than any of the Dominions are prepared to maintain, so long as the direction of foreign policy remains almost exclusively in the hands of the political authorities in Great Britain.

There is, however, an increasing tendency to have an Imperial foreign policy.

Since then, the army of Great Britain is not a model which all the Dominions are likely to follow at present, let us study two other possible models, more within their reach, and discuss their ability to take on either of the above propositions.

Firstly, a reduced edition of the British Expeditionary Force of 1914. Secondly, the Indian Army of today.

Now a force modelled on the lines of the B. E. F. of 1914 would be one at which each part of the Empire might easily aim. Equipment would present few obstacles, and such a force would be well fitted to tackle any of the minor campaigns likely to take place. It would also be a force which would lend itself to rapid expansion. Unfortunately the next great war is not likely to begin at the same tactical stage as did that of 1914. The lessons learned between 1914 and 1918 will presumably govern the tactics of the opening stages of our next major war. The aeroplane, the tank and the machine gun will undoubtedly be prominent. In short, we dare not scrap the equipment devised since 1914 merely for the sake of having standard pattern armies throughout the Empire. Apparently, then, the first model is not a suitable one to copy.

To turn to the second type, the Indian Army of today. Here we have an army obviously fitted to take on any minor expedition, or to carry to a successful conclusion a big campaign under Indian frontier conditions. It is also capable of fairly rapid expansion. Could it, however, tackle a campaign under 'European' conditions, where it was pitted against a highly mechanized force? There is no doubt as to the answer. It would be as helpless as an army of archers opposed by one of machine gunners.

The armies of all the Dominions are similarly unfitted, with their present equipment, to tackle a problem of this nature.

The difficulty cannot be got over by mechanizing all the armies of the Empire. Hill, bush and desert warfare certainly must rank among the 'average' conditions for which we are to organize. They cannot, in our present state of development, be dealt with by a mechanized force; nor can they be regarded as back numbers. Experienced and highly trained troops are necessary for their successful prosecution. Callwell in 'Small Wars' tells of one instance in history where an attempt was made to modify the country to suit the equipment of the army destined to fight therein.

The French had to undertake a campaign in Madagascar. The authorities in Paris decided that a cart road should be made and that wheeled transport alone would be used. They were evidently unaware of the engineering difficulties and the result was that there

was great delay in beginning operations. Meanwhile the troops were kept in unhealthy places and considerable sickness resulted. Finally, the officer in command equipped a portion of his force with pack transport and finished off the operation.

There are other objections to a policy of general mechanization which it is needless to dwell upon. In Canada, for instance, the only permanent force is virtually a training cadre. Its duties have been described as being analogous to those of the permanent staff of the British Territorial Army. It would be useless to mechanize such a force unless mechanical equipment could be made available on mobilization for the non-permanent portion of the army.

It remains to consider the advisability of mechanizing a part only of the Dominion armies as is the case in the army of Great Britain. There are two main objections to this policy.

We have already seen that the Dominion armies are likely to remain nuclei only, until the Dominions have a greater voice in the Empire's foreign policy. Now a small army, which is only partly mechanized, is very liable to find itself too weak in mechanical armament to deal with any problem arising which calls for a mechanized force. It is equally liable to find itself unable to cope with an expedition where mechanized arms cannot act. In the second place, it is essential "to economize military force by utilizing to the greatest extent possible the ordinary machinery of civil life to assist the forces in the field." Generally speaking, in the Dominions, civil life is more dependent on the horse than on the machine. In Britain the problem of the supply and upkeep of horses is becoming acute. In the Dominions there is no such problem, and the life of the people has not been 'mechanized' to the extent that it has in Britain.

I think we are justified in concluding that a standard pattern army, however desirable it may be, is not a practical proposition under present political conditions.

The principle of modifying an army to suit a particular campaign savours too much of surrendering the initiative. While we are modifying our army the enemy may strike us a fatal blow. We must move with the times and keep abreast of other nations in mechanization, but it is futile to suppose that we can modify a mechanized army so that it will be able to take on a campaign in the Indian frontier hills.

What then is the proposed remedy ? How is the Imperial Army to be organized, equipped and trained so that we may best utilize the man power, animal power and machine power of the Empire, and at the same time enlist the hearty co-operation of the Dominions ?

Before going on to consider this problem, let us summarize the conclusions we have reached.

These are—

(1) That the lack of a supreme commander is a serious obstacle to the attainment of the ideal laid down in Field Service Regulations.

(2) That, despite the lack of a supreme commander, we have at our disposal fairly efficient means of co-ordinating military policy, provided we have the wholehearted co-operation of the Governments concerned.

(3) That the Dominions are organizing their armies to suit the special requirements of their own particular problems, and not those of any unspecified problem which may confront the Empire.

(4) That a standard pattern army, *i.e.*, the common standard of Field Service Regulations, is not a practical proposition, so far at least, as concerns the first line of defence of the various parts of the Empire.

(5) That the Dominions will require a bigger share in framing policy before they will be willing to increase their commitments.

To consider the three latter conclusions first :—

At the present time all the component parts of the Imperial Army, excluding troops in India, are really nuclei. Whatever the Dominions may do in a great emergency, neither they nor Great Britain can afford to maintain large armies in peace. The result of this is that each Dominion has organized its defence in accordance with its own particular situation.

Now our Imperial defence problem is very similar to the problem of the defence of a line of communication. The various countries of the Empire are the strong points which must be held. In addition to this we require a striking force to seek out the enemy and destroy him.

A striking force is essentially highly mobile. Mobility is daily becoming more dependent on mechanization. It would therefore appear that our striking force should be a mechanized one. The question of the degree of mechanization to be adopted requires very

careful study, since the striking force must be able to operate over any sort of terrain, in any part of the Empire. We shall call this force the Imperial Expeditionary Force, as opposed to the Imperial Army which includes, of course, the Home Defence units of the different countries of the Empire. Each country of the Empire must be in a position to defend itself until the Imperial Expeditionary Force has been concentrated.

Where is this Expeditionary Force to come from? For the present it must obviously be composed mainly of British Army units, but the ultimate aim must be to get each part of the Empire to contribute its quota. Each country of the Empire could establish the basis of an Imperial Expeditionary Force by detailing some troops to it, be it only a brigade, as its share.

Thus, each portion of the Empire should eventually provide —

(a) A home defence force, organized, equipped and trained in accordance with local requirements.

(b) A quota for the Imperial Expeditionary Force, organized, equipped and trained as laid down in Field Service Regulations, i.e., according to a general standard common throughout the Empire. At the same time, however, the nature of each quota would be decided in accordance with the resources of the country supplying it.

It is clear that it would not always be necessary to concentrate the whole of the Imperial Expeditionary Force. For minor campaigns, that portion of the Empire nearest the theatre of war could be made responsible.

Now how are we to get the Dominions to agree to this policy? It is unlikely that they will agree to it if they have no voice in framing our military policy. On the other hand, they will surely be willing to increase their military forces in proportion as their interest in foreign policy is increased. "War is the ultimate resource of policy, and every nation must be ready, in the last instance, to protect its vital interests by force of arms."

There is no doubt that recent Imperial Conferences have been working to establish a state of affairs where the Dominions will enter, on a steadily increasing scale, into the framing of our foreign policy.

Some day we may come to the stage where each portion of the Empire will have its own 'Sphere of Influence.' Within such spheres, different countries of the Empire will be entirely responsible.

The Dominion concerned will maintain order and provide the means of defence in its own sphere.

This, however, is looking too far into the future and has no direct bearing on our argument. The simple facts are that greater political power is being made over to the Dominions and with this political power must go the power to protect their vital interests.

We still have the problem of the supreme command to tackle. A commander-in-chief for all the armies of the Empire is not a feasible proposition. The Dominions would certainly not be willing, in any circumstances, to hand over control of their home defence forces to a general of another country of the Empire. Nor would such centralization be sound. On the other hand the question of a commander-in-chief for the Imperial Expeditionary Force does not present the same difficulties. Such a commander-in-chief would, of course, have to be responsible to someone and, in the Committee of Imperial Defence, we have a suitable instrument ready to hand. Until such time as the Dominions provide their fair share of the Expeditionary Force, he would, naturally, be an officer of the British Army. Later the Committee of Imperial Defence would appoint as commander-in-chief an officer of any one of the Dominions.

We already have an Imperial General Staff. This, however, would require a certain amount of remoulding, before it would be Imperial in the fullest sense of the word.

To summarize these proposals :—

1. Every part of the Empire to be responsible for its own immediate defence and for the defence of any mandated or other territory for which it is responsible to the Empire. All troops detailed for such defence to be organized, equipped and trained according to the nature of the defence problem facing them.

2. An Imperial Expeditionary Force to be formed of contingents from the various countries of the Empire. The organization, equipment and training of these contingents to follow a common standard throughout the Empire. At the same time, the fullest use to be made of all the resources of the Empire.

3. The Imperial Expeditionary Force to be under a commander-in-chief appointed by, and responsible to the Committee of Imperial Defence.

4. The commander-in-chief to be assisted by an Imperial General Staff, selected from all countries of the Empire by the Committee of Imperial Defence.

One problem remains. How could the Imperial Expeditionary Force best be trained ?

Each contingent could, of course, be trained in its own country, but more satisfactory results could probably be obtained if one or two training centres were established for the whole force. It is suggested that the contingents of Canada, Newfoundland (if any). The Irish Free State and Great Britain should train in Canada. Those of Australia, New Zealand, South Africa and India should train in India. In both places training ground would be plentiful and there would be adequate facilities for exercising mechanical weapons and vehicles. These suggested training centres have both the great advantage of being centrally situated, and are well placed for dealing with possible contingencies. There would be an 'Army of the East' and an 'Army of the West', both reasonably near the scene of any possible conflagration.

The merits which can be claimed for the whole scheme are :— Firstly, it lends itself to gradual expansion. As soon as the Dominions accept the principle of an Imperial Expeditionary Force a start can be made. Having one or more common training centres would be a much later stage of development.

Secondly, no great additional expenditure is involved.

Thirdly, the burden of Imperial defence would be more evenly divided.

Fourthly, real co-ordination of training, equipment and organization would be possible, as regards that portion of the Empire's forces which is intended to fight as one army.

Fifthly, the scheme would accord with the present political tendency to decentralize power while centralizing policy.

Sixthly, we would have in our Imperial Expeditionary Force, an instrument which would make the friendship of the British Empire of the greatest value to all other nations.

Finally, we would be nearer achieving that ideal military consummation, strength sufficient to protect all vital points and ability to concentrate superior force at the decisive point.

LETTER OF A ROYAL TANK CORPS OFFICER TO HIS BROTHER.

BY LIEUT. J. T. CROCKER.

(With apologies to Colonel J. P. Villiers-Stuart, C.B., D.S.O., O.B.E.)

CASUS BELLI.

11th Scinde Regt.,
Delhi.

DEAR GEORGE,

I'm going to have a shot at my promotion exam., and, never having seen a tank, I feel woefully ignorant about your arm of the service.

Can you let me have any useful information ?

Yours,
REGGIE.
Secunderabad.

DEAR REGGIE,

Thanks for your letter. The job you've given me is a bit of a snorter. Anyway I'm sending herewith some general remarks upon the R. T. C., its uses and abuses. I hope they may be useful in putting you on the right track.

• Yours ever,
GEORGE.

General Organisation.

1. **India.**—At present consists of 8 armoured car companies (for detailed establishment of an A. C. coy, see War Estabs., India, 1923, Vol. 2).

These companies are divided into two groups, (i) Northern Group, consisting of companies at Razmak, Peshawar, Cawnpore, Lahore and Delhi with group H. Q. at Rawalpindi. (ii) Southern Group, with companies at Quetta, Bangalore and Kirkee and group H. Q. at Poona.

There is also a Colonel, Royal Tank Corps at A. H. Q., who is a technical adviser to the C. G. S. This officer, although he has no direct executive command, is able to control and co-ordinate by means of frequent inspections. There is also the R. T. C. School at Ahmednagar.

You will notice that the R. T. C. consists purely of armoured car units in India. As a matter of fact there are two tanks, for experimental purposes only.

These two tanks were put through exhaustive tests during 1925-26 including a march from Quetta to Peshawar. They took a long time to accomplish this difficult task, owing to various mechanical breakdowns and lack of spares and not, so far as I know, because of the difficulty of the route. Anyway they were due to take part in Northern Command manoeuvres on their return but were too late. I am afraid they will be considered a failure owing to this much advertised absence.

There is no talk of any more coming at the moment.

The present trend seems to be towards a compromise between a tank and an armoured car which may take the shape of a six-wheeled vehicle of some sort. It is thought such a vehicle will be able to cover the long distances in this country with some speed and combine this with the ability to leave the road when necessary.

If tanks do ever come to India their employment will, no doubt, follow the same lines as at home.

2. **Home.**—Organised in five battalions.

There is a R. T. C. Centre at Wool in Dorset, which includes the depot battalion and schools.

The other battalions are administered in the usual way, for example, the 2nd battalion is administered by the 2nd division, but, being a non-divisional unit, for training questions, it comes under Aldershot Command.

At the W. O., there is an R. T. C. Inspectorate which co-ordinates all R. T. C. units at home and abroad and generally represents the corps at the W. O. (C. I. G. S. Branch).

For detailed establishment of a tank battalion see Home W. E. non-divisional units.

War organisation is —

Battalion, H. Q.,

4 companies (16 tanks),—

each of 4 sections (4 tanks)—

with 5 other tanks (battalion H. Q.,) fitted with R/T and manned by Royal Corps of Signals personnel.

The company is the accounting unit.

There are also two A. C. coys. at Home and one in Egypt.

Employment of Tanks.—This is a very big subject, particularly at the present stage of development. The existing tank training manual is completely out of date. A new manual is, I believe, in process of compilation, its publication having been delayed so long because of the constant change in ideas on the subject of tank employment.

We are, therefore, working on a collection of notes which have been, and are continually being, issued by the W. O.

The underlying principle seems to be, at the moment, that tanks must be considered as extremely valuable and powerful weapons which should not be frittered away on small enterprises,—used in the attack when opposition has been definitely located “when their employment is likely to prove decisive.” This in view of the scarcity of tanks available at the commencement of a campaign and the difficulty of replacing casualties.

However, in examinations, they generally seem to give you a few to play about with, so the following may be useful :—

1. General.

- (a) **Need for Co-operation.**—Co-operation with infantry, gunners and Air Force is essential to success in all tank operations.
- (b) **The Tactical Unit.**—Use of single tanks is criminal. The section is the normal tactical unit and is self-supporting in an administrative sense for short periods.

The sub-section (2 tanks) should never be split up for the following reasons :—

- (i) From a tank one has only distinctly limited vision. It stands to reason that you can see about twice as much ground from two tanks as you can from one, and it is generally the case that the ground one tank cannot see, the other can.

The two tanks of a sub-section, therefore, can and do help each other the whole time by mutual reconnaissance. So by using a sub-section you overcome, to some extent, one of the most adverse characteristics of the weapon, its so-called “blindness.”

- (ii) All mechanical vehicles are liable to breakdown just the same as a horse may go lame or an infantry soldier may go sick with sore feet. By using the sub-section you go far to overcome this bad characteristic. I want to be quite clear about this. The second tank isn't there primarily to give assistance to his mate in the event of breakdown. The primary reason for sending two tanks is so that if one breaks down, the job can still be done by the other. If there's no urgency the fit tank will, of course, give a hand to the lame one but only if he can do so without leaving undone the job the sub-section has been given to do.
 - (iii) Then, by using a sub-section it is possible to adopt some form of depth in formation and so gain the great advantages accruing therefrom, *e.g.*, mutual support by fire, powers of penetration, possibility of manoeuvre, etc. Remember the armour plating of a tank enables its mate to give it very close and effective fire support.
 - (c) **Distribution of Tanks.**—The "normal" allotment of tanks will be a battalion to a division, a company to a brigade, but this obviously depends entirely on the situation.
- Army or corps commanders may want more tanks with one division than with another for a particular operation, or none with another. Brigade commander might be attacking where it was decided only one section was necessary with one of his battalions, etc. The question of adequate reserves applies in all cases as with other arms.
- (d) **Offensive Weapon.**—Tanks are not suitable for holding positions once captured—remember their characteristic of mobility which is, added to their armour, their best means of protection. If you stick a sub-section in a place and tell them to hold it you sacrifice one of their most useful characteristics doing a job for which they are not suited. (More about tanks in the defence later).

Having got the infantry there the tanks must get out as soon as they can to a pre-arranged rally position where they can attend to their machines, rest the crews, and, most

important of all, come again under the control of the section or company commander so that they can be given further tasks or remain in reserve under his hand.

- (e) **Rally Position.**—Remember the system of inter-communication between tanks and tank units is very sketchy at present (wireless experiments are in progress and wireless presents the only solution). So that once launched, tanks are, to a great extent, out of control. The only way a commander can resume control is by getting them back to the rally position.

The other point which arises out of this is that the tank plan must be simple otherwise you will get a box up. (F. S. R. 47 (3)). And usually one section can only be relied upon to do the one task. Remember the men; a couple of hours in a tank; closed down and fighting is about enough for most people at one go.

- (f) **Reconnaissance and Liaison.**—Give the tank officer plenty of time for this. It is, if anything, more important in his case than for other arms. Normally the tank company commander is in the brigade commander's pocket the whole time and does his reconnaissance with the battalion, artillery commanders, etc. The same applies to the commander of a section working with a battalion.

The importance of officers of other arms knowing something about tanks so that they can give useful and reliable information to the tank commander regarding ground, etc., is very important (F. S. R. 47 (3)), particularly senior officers who otherwise often give tanks, temporarily under their command, impossible tasks.

Now for a few details of tank employment :—

2. **Advance to the Battlefield.**—General employment is given in F. S. R. 29 (3). On the march tanks are difficult to fit in with a column of all arms because they move at a different rate. So, the method is, if an alternative route is not possible, to allow the tank units to march by bounds in the spaces between the component parts of the column, *e.g.*, between the vanguard and the main guard and the main body, or between the brigades of a division, etc. Of course a separate route is infinitely preferable.

To make them conform to the infantry rate is uneconomical and annoying to both the tanks and the other arms.

3. **Advanced Guards.**—If tanks are used (see F. S. R. 45 (3)) they would normally be allotted to the main guard and used in the event of considerable opposition being located, but it is difficult to say definitely where they will march. Naturally, the more likely they are to be required the further forward in the column will they be placed. If they are used, the same considerations as in the encounter battle apply.

4. **The Encounter Battle.**—F. S. R. 73 gives full information on general employment—

- (a) **Timing.**—The increased speed of the new tank has rather altered war time conceptions of the old heavy tank trundling along with the infantry although the object of their employment is just the same as ever, *i.e.*, to—
 - (i) Gain surprise effect (by doing away to a large extent with the necessity for preliminary artillery preparation, see Maurice's "Last Four Months," pp. 78, 105, etc.).
 - (ii) Assist the infantry on to the objective by overcoming wire (if any) and machine guns, and to save casualties.
 - (iii) Moral effect.

The speed of infantry and tanks now, instead of being approximately the same, is as 2 to 8 m.p.h.

It is now possible therefore to attain surprise easier by keeping the tanks further back, and instead of it being necessary for the tanks to form up on about the same line as the infantry, their start is so timed that they arrive on the objective ahead of the infantry.

The old type of tank had to advance by the same route as the infantry. They may now in some cases advance by an entirely different route (and a longer one) and approach the enemy from an unexpected direction, but such a plan must not be made at a sacrifice of the essential tank rôle of assisting the infantry on to the objective.

- (b) **Command.**—Tank sections may be "under command" of battalions, but as a rule it will be more a case of "support", that is, the tanks will have as their primary rôle the support of that battalion but they will not necessarily be under the command of the battalion commander.

- (c) **Formations.**—The actual formations adopted by the tanks in an attack must vary with the ground. The idea is to move in such a manner that they will (a) make the enemy anti-tank gunner's job as difficult as possible, and (b) be able to use their own weapons, *i.e.*, 3-pounder Q. F. gun and machine guns to the best advantage. Some form of echelon of sub-sections is as a rule the best formation, as this also gives the depth essential in any attack whether made by cavalry, infantry, gunners or tanks. (A note about the anti-tank problem later).
- (d) **Infantry Co-operation.**—One thing I've struck several times in talking to infantry officers about tanks working with infantry. Although a battalion attacking a position may have tanks to assist it, it is essential that the infantry should mount their attack in exactly the same way as if there were no tanks there, *i.e.*, adopt fighting formations because—
- (i) Tanks are fairly blind closed down and a wily enemy will let them go through and take on the following infantry who must, therefore, be prepared to fight their way forward in the usual way.
 - (ii) A well placed anti-tank gun or two may put out the tanks, or the ground may prove to be impassable for them.

It's the old story of fire and movement ; what the tanks do is to provide the fire part of the business because they can combine fire with movement. The infantry, therefore, must be trained to keep on moving, relying on the tanks, until they have to supply their own fire and carry on on their own for one of the reasons stated above.

It's all a question of combined training but, on manœuvres, for tanks to see the infantry solemnly fighting their way forward when the tanks have already covered the ground and are waiting for them on the objective is a common sight.

So you may get two kinds of infantry. (a) Those who want to go gaily on in some handy movement formation because they say "We've got tanks ; we don't have to do anything". (b) The super-careful kind who stick to the stereotyped method of advancing and so do not take advantage of the work the tanks have done for them.

(c) **Artillery Co-operation.**—The chief enemy of the tank being enemy tanks and guns, close co-operation with our own gunners is essential, they can assist by—

(a) Counter battery work.

(b) Forward guns to take on enemy tanks.

(c) Providing smoke for covering the advance of the tanks.

See F. S. R. 73 (5) and 79 (8).

5 **The Deliberate Attack.**—The above applies. See F. S. R. 82.

6. **The Pursuit.**—The increased circuit of action of the new tank (upwards of 100 miles without refilling) makes its employment in pursuit possible. F. S. R. 87 even hints at an almost independent role for tanks.

I can't imagine anything more beastly than being chased by a lot of tanks but the jobs of this nature given to tanks would, in my opinion, have to be very definite ones. It wouldn't be a case of losing them any old how on no particular sort of plan.

7. **The Defence.**—Tanks are offensive weapons. (See F. S. R. 16). Their role in defence must therefore coincide with their characteristics. F. S. R. 108 really covers the ground entirely in about ten lines, but just a word on the way *not* to use tanks in the defence.

Don't distribute them along a position to be defended like a lot of Martello Towers. If you've got a sub-section here and a sub-section there, its 10 to 1 the enemy will come along somewhere else and, then instead of having a section in your pocket somewhere well back to push in a quick counter attack, your tanks are spread all over the place, out of your control, and wasted.

Keep tanks concentrated. Perhaps you might place a section a bit forward on an obviously exposed flank or sector with the job of immediate counter attack on a pre-arranged plan in co-operation with other arms. But keep the bulk well in rear in some central position from which they can be launched when, and in the direction, required. The increased speed of the new tank allows you to do this.

You may notice F.S.R. 108 says, "tanks can counter attack with or without the other arms." I should say "without" could only offer temporary relief in a great emergency as, as already pointed out, tanks cannot hold the ground gained by such a counter attack.

8. **Outposts.**—The above applies. After all an outpost position is one of protection, *i.e.*, temporary defence.

9. Rear Guards.—The value of tanks in this phase, I think, cannot be over-estimated.

Again remember the characteristics of the arm, mobility and armoured protection, an essentially offensive weapon. If you're chasing somebody I can't imagine anything more likely to stop you than suddenly to get a biff in the stomach from the person you fondly imagine was legging it as hard as he could.

Counter attack to relieve pressure and allow your own slower moving troops to get away ; ambushes, etc., open a tremendous field for the employment of tanks in a rear guard action.

Incidentally, counter attacks without the support of infantry have now become feasible because it isn't a question of holding ground so much as giving the enemy a quick blow and running away. Imagine a few tanks with the Expeditionary Force at Mons.

Of course, there are distinct limitations to what the tanks can do. They, like anyone else, have got to be sure they can get away, especially as it is comparatively easy to block their line of retirement by blowing a bridge or two. Tanks will be an essential part of a rear guard in "civilised" warfare in future if only to counter the action of enemy tanks which will certainly be employed in pursuit.

10. Mountain Warfare.—The usefulness of tanks in mountain warfare is obvious. The only, but very important, factor, which makes their employment difficult is the nature of the ground.

You are never going to get a machine to climb up a vertical cliff, but the point is—do you want one ? If you can get a tank which can proceed up the nullahs with perfect safety (as there are no hostile guns and rifle fire does not affect them) I consider you've got what is wanted.

Shoved out in front of a column they will take the place of the mounted troops of normal warfare.

From what I hear and read, the hillman doesn't like to feel that his line of retirement is endangered ; he reckons on disappearing at the crucial moment down the reverse slope, but if a tank is waiting for him round the corner I can't help thinking it will cramp his style a bit.

The same thing applies to a withdrawal, and in supporting or assisting the withdrawal of piquets the tank should prove an ideal weapon.

The moral effect on semi-civilised enemies would be hard to calculate.

See F. S. R. 122 (4).

11. Anti-tank Measures.—There is no doubt that the infantryman without the assistance of some sort of anti-tank device is fairly helpless when up against tanks.

What means has he of protecting himself:—

- (a) The choice of positions with one eye on the possible enemy tank attack.

There are certain types of ground, obstacles, etc., which tanks cannot negotiate, for instance, thick woods, wide ditches with vertical sides, water over a certain depth (particulars attached), railway cuttings, and very steep embankments, bogs, etc. The new tank is even less able to tackle these sort of things than the old, but remember it has got greater mobility which allows it to make detours to avoid them. If you're confronted with enemy tanks you must make the best use of the ground in this respect [what the coiners of phrases have termed "confining the tanks to narrow waters", so that there are certain parts of your position that you know are tank proof. You can then concentrate your anti-tank weapons on the other sectors where you know the tanks can come. See F. S. R. 89 (5). Incidentally it's the devil now to choose a defensive position off a map. What with giving "full consideration" to anti-tank defence, and fitting in your guns and machine guns you find, after about an hour's hard work, that all you have done is to give yourself a bad headache.

- (b) The allotment of pack artillery to battalions with a purely anti-tank rôle. The pack now is not ideal but it is the best we can do at present. Experiments with 5 M. G's have been a bit disappointing I understand.

The allotment of a proportion of field guns for a purely anti-tank rôle. See F. S. R. 94 (8). (Hence the need for close artillery co-operation with tanks in the attack).

- (c) Your own tanks—the best form of anti-tank defence yet provided.

The necessity of maintaining adequate reserves of tanks has been mentioned. If both you and the enemy have tanks I can't help thinking, if I had anything to do with running my side, I'd keep a goodish proportion of my tanks in hand so that I could deal with the enemy tanks when they came along.

- (d) Can the infantry themselves do anything against tanks? The infantry have nothing heavier than the .303 bullet which is not much use.

Indiscriminate firing is useless, in fact worse than useless, because it merely discloses the firer's position to the tank. A machine gun concentrated at the driver's face would be very unpleasant but it would have to be jolly good shooting.

I'm inclined to think that the best form of defence (and it takes good troops to do it) is to leave the tanks alone as far as you can. Let them go through and be dealt with by the guns and your own tanks. You bob up afterwards and deal with the following infantry. Very good advice you'll say, but I really think it's your best chance. And apart from saving your own skin it makes the job of the tank more difficult because he goes on thinking how well he's getting on until he suddenly finds a gun taking him on at about 100 yards range.

- (e) Laying of Tank Mines.—These can be laid now very quickly I believe. But it's obvious that it must be done very carefully or else you'll blow up your own tanks too.

Employment of Armoured Cars.—The R. T. C., being represented in India solely by armoured car units, I'd better say something about them too.

The employment differs in some respects from tanks because (a) they are wheeled vehicles and therefore practically confined to operating on roads; (b) they are only armed with two Vickers machine guns; and (c) they possess greater speed. Their employment in some parts of the world where they can leave the road at will, such as parts of Egypt and Iraq, is on similar lines to tanks. Remember, however, that, in whatever type of country he is operating, a good armoured car commander will always be on the look out for the opportunity to leave the road.

But their employment in "normal" countries is, for the reasons stated above, confined to—

Strategical reconnaissance.

Tactical reconnaissance.

Advanced guards.

Rear guards.

Pursuit.

Escorts to convoys.

See F. S. R. 16 (9).

They are in fact a sort of mechanical cavalry and as such most of their work is done in the closest co-operation with that arm, and occasionally independently.

To attempt to employ them once the battle has been joined (except when opposed by an enemy who hasn't got any guns) is a mistake. You are only going to get your A. C.'s knocked out without having the satisfaction of doing much damage to the enemy, and deprive yourself of a weapon which you may want badly later on.

1. **Advance to the Battlefield.**—At this stage A. C.'s can be employed with the utmost usefulness. They can fill in the gaps in the information received from the air and generally find out what the enemy are up to and so help the commander to make his plan.

They can be employed either independently or with the cavalry.
See F. S. R. 28 (4).

You must remember, though, that their scope as a reconnaissance arm is limited. They must, usually, stick to the roads and they can therefore only give direct information upon the area seen from the roads or from high ground in their vicinity.

2. **Advanced Guards.**—Co-operating with the advance guard mounted troops, armoured cars can assist tremendously by—

- (a) Seizing tactical features ahead of the cavalry (not too far ahead because armoured cars aren't suitable for holding positions against serious attack).
- (b) Regaining touch with the enemy.
- (c) Working with the foremost cavalry patrols and generally speeding up the advance.

The advance guard mounted troops and the A. C. unit will be commanded by the senior officer just as the different parts of the

advance guard are all under the command of one officer. This is necessary, of course, to ensure close co-operation.

A possible way to employ a section of A. C.'s as part of these advance guard mounted troops might be :—

The whole section under command of O. C., advance guard mounted troops. One sub-section definitely allotted to work with the forward cavalry patrols. This sub-section would move by bounds level with and in front of the cavalry patrols having as its sole object in life the assistance of those patrols.

The other sub-section moving by bounds with the reserve troops of the advance guard mounted troops under the hand of the O. C., who would employ them as the circumstances demanded. For instance, he might send them on to gain certain information ; to regain touch with the enemy (up to a limited and definitely ordered distance) ; he might use them to make contact with a neighbouring friendly column ; or to seize a certain feature.

If this sub-section was used in any of these ways it would automatically revert back into reserve when its task was completed.

See F. S. R. 45 (4).

By the way, you can take it as a sort of guiding rule that one active section is all that can usefully operate on one road.

3. Flank Guards.—The crux of most flank guard problems is, generally, the question of gaining timely information as to the direction of the threatened danger.

The speed and circuit of action of A. C.'s, therefore, makes them particularly useful in this respect.

See F. S. R. 50 (3).

It isn't necessary to mention, I'm sure, that A. C. unit commanders, like everyone else, need to be given very definite information as to what is required of them. None of this "Go and find the enemy" or "Let me know what the country ahead is like" sort of business. Question and answer, definite times to report, your intentions, and the general situation need to be given to him if he is to help you successfully.

4. Rear Guards.—A. C.'s may be employed in a similar way to tanks, except that the question of the counter attack is subject to whether the enemy has had time to bring up his guns or not. Counter

attack by A. C.'s if confined to the roads is a risky business and more by way of being a last resort.

But in the matter of ambushes A. C.'s are ideal and can be employed freely in this manner with great effect and the great thing to remember in this is the importance of a good line of retirement.

See F. S. R. 52 (13).

5. Escorts to Convoys.—See F. S. R. 62 (7). The A. C. companies stationed on the N.-W. Frontier are continually employed in this rôle.

6. Mountain Warfare.—As the completion of roads on the frontier progresses so will the usefulness of A. C.'s be enhanced. Employed with the advance guard and the rear guard they would be extremely valuable in keeping the tribesmen from seriously harassing a column.

See F. S. R. 122 (4).

R. T. C. System of Supply.—For transport of a tank battalion and an armoured car company see War Establishments.

Its all M. T., of course, wheeled at the moment, but they're struggling hard, I know, to design track, half-track, or six-wheeled vehicles, which are obviously necessary.

In the case of tank units their transport must be able to get up with ammunition, spares, petrol, food, etc., to the rallying points. If transport is wheeled it will be necessary to fix rallying points on roads which, often, will be inconvenient. At Home, under the new R. A. S. C. organisation, there is a tank battalion section to the corps troops maintenance company (both supply and ammunition sections). These three ton lorries carry stores from railhead to refilling points. Thence vehicles on the establishment of battalions carry supplies to delivery points, but ammunition is carried over this stage by the 30 cwt. lorries of the tank battalion section of the corps troops ammunition company.

R. T. C. System of Repairs.—There used to be units known as Tank Salvage Companies which existed to carry out 2nd line repairs to tanks. Now these have been abolished and the system of repairs has been brought into line with other arms of the service.

First line (light) repairs are carried out by personnel on unit establishments.

Second line repairs to track vehicles and armoured cars (these being vehicles "peculiar to fighting units") are carried out by R. A. O. C. Mobile Workshops.

Second line repairs to wheeled transport (these vehicles being common to all units) are carried out by R. A. S. C.

See F. S. R., Vol. 1, Sec. 137, para. 2.

L of C repairs are carried out by R. A. O. C. Base Workshops in the case of track vehicles and A. C.'s, and Base M. T. Heavy Repair Shops, R. A. S. C. in the case of general transport.

Particulars of present Tank :—

Maximum speed	..	.. 18 m. p. h.
Average speed across normal country	..	6 to 8 m.p.h.
Circuit of action (depends on ground)	..	100 to 150 miles.
Weight	.. ..	— 11 tons.
Crew	-- --	— 5 (Officer or N-C.O. in charge).
Armament	..	.. 1—6-pounder Q. F. gun. 2 Vickers M. G.'s 4 Hotchkiss guns.
Armour	..	.. Proof against bullets, shrapnel and splinters.
Can cross	..	.. Water—4 feet deep. Trench—6 feet wide.
Can climb	..	.. Slope of 45° if good grip can be obtained.

THE CONDUCT OF ARMY OFFICERS DURING RIOTS.

By

MAJOR-GENERAL H. E. AP RHYS PRYCE, C.B., C.M.G., D.S.O.

I was very much struck on coming to India at the end of 1920, by the feeling amongst officers of not knowing exactly where they stood in the case of riots as evidenced in the talk I had with many. There was a general feeling that the hold of the civilian over his district had weakened very much, with the consequent necessity for calling out the military more frequently to maintain order, and that whatever they did, both civilian and military would be the target for hostile criticism and even have to justify their conduct before a committee or in a court of law.

This feeling of uncertainty was rendered somewhat bitter, by the fact of many inciters to violence and anti-government measures not being called upon to justify their conduct or to uphold law and order.

2. I therefore thought it would be useful, if, without in any way clashing with the official instructions on the subject, some simple formula could be evolved, which if acted upon would not only be a correct guide to any officer dealing with a riot, but would also steer him through the many legal pitfalls that might await him after the riot.

I wrote out a tentative formula which I submitted to two lawyers and a High Court Judge. This was gone through, as if I had been the officer concerned in several well-known riots, and the formula amended where it did not satisfy the law, until it became a practical working one. Since then it has been tested in an actual case of riots in the law courts, and the officer concerned was commended for his action. With the recent increase of communal riots, I thought it might be useful to pass it on, so that it might be available for all officers, and be helpful to them when performing their duty in riots.

3. The formula is drawn up on the lines of a statement that would be made in a law court and on a logical course of action, and if held in mind during a riot will also prove a guide to one's correct action at the moment.

It is as follows:—

“The attitude of the rioters was such that in my opinion (a) there was danger to life and/or property, (b) and that nothing short of firing would prevent it.”

“The rioters were therefore warned to desist and disperse or I should be compelled to fire, and such warning was given in an audible manner. (c) The rioters however would not desist, or disperse and I therefore ordered, (d) to fire on the most prominent ringleaders amongst the rioters. The moment the rioters showed signs of dispersing, (e) I ceased fire and had the wounded tended, (f) and sent by ambulance to hospital.”

4. I attach a few explanations which will make clear some of the points against which I have put letters in the above formula or statement.

5. *Note (a).*—“In my opinion” is important as the officer is the judge on the spot, and full credit will be given to him for his personal opinion. If “in my opinion” is not stated the question of fact becomes more accentuated. If there is a magistrate present, it is his duty to ask the officer to order firing if he considers it necessary, but it must be remembered that if the magistrate loses his nerve, and asks for firing unnecessarily, the officer becomes liable for unnecessary fire also, so it is necessary to be guided by full consideration of what is in note (b) below. Consideration should also be had to whether lesser measures such as hitting with butts, seizing a ringleader etc., would do.

6. *Note (b).*—If the rioters started looting and damaging property, or knocking down or throwing stones at peaceful citizens or the detachment, so that there was real danger to life or property, or of pushing back the detachment from its position, firing would be justified. Here the great legal principle is *Self Defence*, i.e., as an officer of the State, and therefore an upholder of law and order, it is an obligation on an officer to see to the defence of property, life and the safety of his detachment.

The officer should have facts ready such as “I saw men breaking down the doors of houses, or two of my men were rendered senseless by stones, etc.”

7. *Note (c).*—There should be no doubt but that the rioters heard the warning order. Usually this is given by sounding a bugle or whistle, then stepping forward and warning the crowd in a loud voice that unless they immediately disperse fire will be opened. In cross examination a hostile prosecution is very prone to try to prove that no adequate warning was given. Firing without warning is

only justified in an emergency, when the rioters are armed with lethal weapons and are actually burning and looting houses and beating or killing people.

8. *Note (d).*—It should be stated here whether individuals, a section, etc., were ordered to fire. The great legal principle here is *The use of Minimum Force requisite*, and to direct it against the most violent of the mob and their leaders, as their elimination tends most quickly to cause dispersal.

9. *Note (e).*—The moment there are signs of dispersal fire should be stopped, as the object of the fire has been obtained and the principle of minimum force is being complied with. It is also important as in cross examination a hostile prosecution is apt to bring up all the cases of shots in the back as proof that fire was continued too long.

10. *Note (f).*—The point of not attending to the wounded was severely criticised by the Hunter Committee as showing a lack of humanity and impartiality in one whose duty it is to maintain law and order.

In war one tends the enemy's wounded, and equal care should be shown to misguided people who get wounded during riots.

I trust the above notes may be of use to my brother officers.

ARMY EXERCISES 1927 (1).

By

COLONEL A. H. C. KEARSEY, D.S.O., O.B.E.

As has already been stated in the *Daily Mail* the army exercises this year will be of exceptional value as there is so much to be considered, and there are so many experiments for future development to be tried.

In a recent *Daily Mail* article an outline was given of the possible course of future wars. A prediction was given that mechanical transport would exercise the greatest possible influence on future operations, so that all arms and anti-aircraft troops can be brought as early as possible to the decisive place.

Aircraft vehicles as armed carriers of troops, and as offensive weapons able to gain and repeat quickly valuable information will be the most influential in the early stages. Later they will again operate as artillery machine guns and as cavalry scouts. Then it must be realised that both sides will make every effort to obtain an initial advantage by delivering the first blow.

All available infantry will be sent forward in armoured gas-proof vehicles supported by artillery and aircraft able to act further from railhead than formerly owing to the improved means of supply by cross-country vehicles and owing to the roads being made durable for motor vehicles, and owing to the necessary forethought in arranging for the concealment of reserves of supplies, ammunition, petrol, oil and grease in previously reconnoitred areas.

This year the Expeditionary Force of four divisions, each approximately at war strength of 15,000 men, 5,038 animals, 445 machine guns, 96 Vickers guns and 1,162 vehicles, also two cavalry brigades each of three regiments, a battery of six 13 pounders, a field troop R. E., Brigade Signals, a field ambulance, will be exercising in the Thames Valley between Aylesbury and Reading; on Salisbury Plain between Ludgershall and Westbury; and between Herne Bay and Hythe. Each division will have its air squadron. Battalions will be experimenting with twelve machine guns instead of eight as in former years, and the grouping of the eight Lewis guns per company

may be different. With each cavalry regiment we shall see how their personnel reduced to 417 with two Hotchkiss guns in the place of fourteen will continue to carry out the important duties of tactical reconnaissance.

Already an interesting exercise has been carried out in crossing the Basingstoke Canal. The new Kapok assault bridge has been used to get the 5th Brigade with their close support anti-tank howitzers across this obstacle on the night of the 19th/20th July.

Not only were they successful in crossing under cover of darkness, but also they gained a position on the high ground south of the canal, from which they could deal with the Southern enemy and their tank attack at 0430 hours. Had it not been for the Verey lights used to help the Northern brigade there would have been no indication to the Southern force that a crossing between Norris Bridge and Kelmoor Bridge was being attempted.

As it was the Northern brigade gained a definite position south of the canal, and this position owing to getting their guns across they would be able to hold in spite of the alert Southern enemy and their prompt tank attack covered by smoke.

ARMY EXERCISES 1927 (2).

On the 21st July further interesting experiments were carried out by the 3rd Infantry Brigade operating between Alice Holt Wood and Weaver's Down.

For intercommunication eight wireless sets were available for the pursuing Northern brigade. The normal proportion of artillery available for close support and for anti-tank defence was also increased for these troops, that is, a battery of 18 pounders and a section of light guns were available for the two forward battalions.

In the Southern Force the number two group headquarter wing of a battalion with its eight machine guns became a machine gun company with twelve Vickers guns. All the riflemen were in the remaining three companies. The duty of the M. G. company was to support all movement by fire and to keep their sections in depth as forward, supporting and reserve sections. The guns can then advance by bounds successively and sections can always be in action while others are moving. By keeping machine guns in sections control,

administration and ammunition supply are facilitated while the necessary covering fire throughout an advance is maintained up to the moment of assault.

Simplicity is introduced by having all the units' machine guns in one company because the O. C. company has then to consider only one role, namely, to provide constant covering fire. O. C. rifle companies can concentrate on making the best use of ground to advance and to strike the enemy in the final phase with the greatest number of rifles.

In this case the Northern Force owing to their superior numbers in sabres, guns and rifles (*i.e.*, one Infantry Brigade, one Cavalry Squadron, one Field Brigade and one light battery of Royal Artillery) and their improved means of inter-communication were able to carry out successfully the rôle of an advanced guard. That is, they were able to prevent the march of their main body from being delayed through the difficult country of the Woolmer Forest. This ground was well suited for the rear guard action. The Southern Force took full advantage of their knowledge of the ground and of their numbers of machine guns to carry out the principles of a rear guard by successive retirements to known positions. Only the fact that their flanks were uncovered necessitated their occupation of a strong position on Weavers Down.

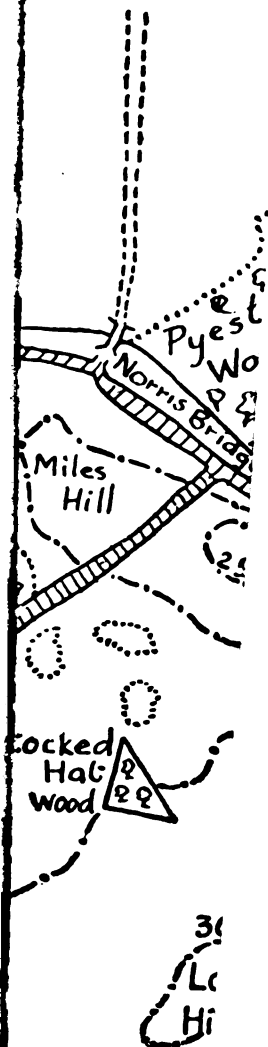
In addition to experiments with guns, machine guns and rifles it would be interesting if chemical warfare was considered during army training.

It must be remembered that no powerful weapon of war has ever been discarded until a more useful one has been discovered. The use of gas is the evolution of gunpowder used for propelling solid and bursting projectiles.

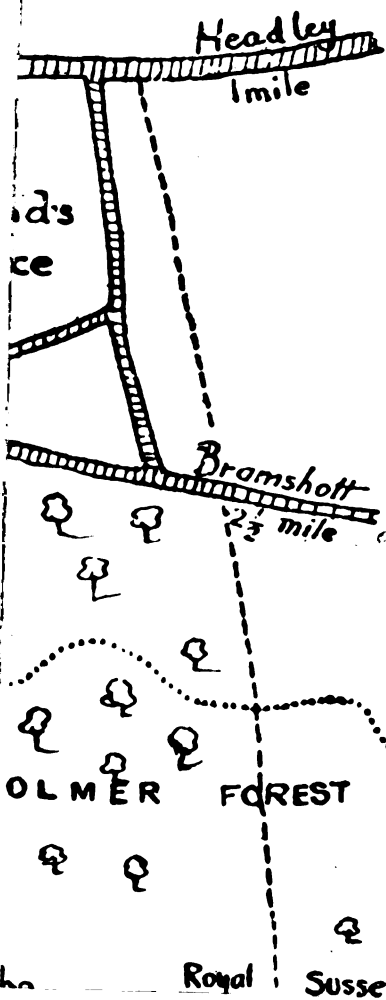
In every war, victory will go to the nation that makes fullest use of all available resources. Surprise will always be a most important and powerful factor in war. The use of gas gives a scientific and ingenious people the advantage of surprising a less ready nation. But in addition to ingenuity and science there must be training for defence against gas. General Fries and Major West in their interesting book in "Chemical Warfare" point out that "gas will get casualties and will help to win victories more readily than an equal weight

of any other material. A study of the articles of equipment abandoned by 10,000 stragglers in the British Army picked up during the great German drive towards Amiens in March 1918 showed that 6,000 discarded their steel helmets, but only 800 threw away their gas masks." They conclude their book by saying that if the training of the army in chemical warfare is thorough the United States will have more than an equal chance with any other nation or combination of nations in any future war.

of the Basir



Training



TANKS IN INDIA.

By

COLONEL J. F. C. FULLER, C.B.E., D.S.O.

The question whether the army in India should be equipped with tanks is quite as important as whether these machines are of tactical use in that country. This, on first thought, may seem an anachronism, but on second it will be realised that unless the army at home and the army in India are similarly organized, equipped and trained, in place of one army there will be two, the tactical co-ordination of which is impossible. In England, the tendency of military thought is slowly but surely veering towards mechanization. Whilst five years ago the tank enthusiast had to fight for his ideas, to-day he has the bulk of the junior officers on his side, and even amongst the senior he will frequently find full-hearted allies. In the West there is not a shadow of doubt that mechanization will proceed steadily towards a complete reorganization of European armies, and it is certain that the nation which leads in this change will be at a tremendous advantage over those who trail behind. It is also certain that whether the army at home wishes to mechanize or not, mechanization will be forced upon it. No citizen, or politician, who thinks at all is going to tolerate another 1914-1918 war. The people, rightly, will refuse to have their sons, brothers and fathers slaughtered on wholesale lines, and though they may know little about the process of mechanization they know quite sufficient about the existing organization to welcome even the wildest fanatic as long as he points to a less costly and less bloody war. If mechanization is to be accepted by the army at home and not by the army in India, then the Cardwell system goes to the wall, and the only principle of co-ordination the army has ever had, namely, similarity of parts, vanishes in thin air. Further than this, it must be realized, and in India it is often overlooked, that the army in India, is as much an imperial force as the army at home, and as the army at home may be called upon to fight in the East, so must the army in India, as was the case in 1914, be prepared to fight in the West, and unless it can fight in the West, that is fight against industrial nations, it ceases to be an imperial asset. For India to say: "This is not correct, we are but waiting until the home army shows its hand before we follow suit," is no answer to the above statement. It is no answer because by refusing to mechanize, India is gravely impeding mechanization at home. Only recently a brigade of mechanized

guns had to revert to a horse establishment because India is persuaded that the horse is more suitable than the dragon. Even if India is right, how can the home authorities press on with perfecting the new order, if no sooner a new unit is built up than it is smashed to pieces. India must realize this. If India does not, then, I repeat it again, the Cardwell system is doomed, and the future will see two armies and not one—a highly mechanized force at home, and an army of militia value in India.

Fortunately conditions are not as bad as they look. There is hope, for though the army in India is unequipped with tanks, anti-aircraft artillery, mechanized field guns, anti-gas appliances, and mechanized machine guns, the armoured car has been accepted, and so has the 30-cwt. lorry, and so has the six-wheeled lorry which is likely to replace it. These are encouraging signs, yet the fact remains that it is almost as dangerous to talk of tanks in Delhi as to sing "God save the King" in Moscow. It is not only a curious but a perplexing state of affairs, seeing that, though certain experimental tanks sent to India in 1921 proved a failure, others sent there in 1926 (remembering what they were asked to do) proved an unqualified success. Where then lies the crux, for unless the stoppage in the pipe of Indian military thought is located, it will be utterly useless attempting to force new ideas through it.

In the autumn of 1926 I had the good fortune to visit India, and one of the several questions I had to enquire into was the use of tanks in that country. No sooner had I landed than I was confronted by two factors of military importance. These I will call the hill-top outlook and the truncheon outlook. The mountain warfare expert could see nothing but inaccessible crags, and the soldier-policeman—nothing but seething mobs of riotous natives which must be gently patted on the back. The first said: "Your tanks cannot climb these hills—they are useless." The second: "They must not shoot down these poor people—they are inhuman." As regards the second I am little concerned, for internal security is essentially police work, and if it is inhuman to shoot rioters from inside an armoured machine, I cannot see that it is any the less inhuman to shoot them down by infantry rifle fire. "But they are not shot," replies the soldier constable, "They are

moved on, they are pushed aside." Such action is pure police work, and if the army in India is to degenerate into a police force, then the sooner it is divorced from the army at home the better, and the Cardwell system must then go.

As regards the first, the mountain warfare expert, I had to raise myself to his exalted level, for I soon discovered that until I could say : I have seen half the hill-tops in Asia, I should be at a discount, and that any arguments I might venture upon would founder on inaccessible crags. I therefore visited the North-West Frontier, and, in a month, saw more of it than many Indian Army Officers see throughout their service. My journey was as follows : Nowshera to the Malakand Pass, thence to Peshawar ; Peshawar to Bara Fort and Lundi Khana ; Peshawar *via* Kohat, Fort Lockhart, Gulistan Shinawari to Thal ; Thal to the foot of Piewar Kotal ; Parachinar to Kohat ; Kohat to Bannu ; Bannu to Razmak ; Razmak *via* Sarwakai to Jandola ; Jandola to Dera Ismail Khan ; Sibi to Quetta ; Quetta to New Chaman ; New Chaman *via* Pishin to Hindubagh ; Hindubagh *via* Kila Saifulla to Loralai ; Loralai to Harnai and Loralai *via* Ziarat to Quetta—all by road. I insert this itinerary so that the reader may know what parts of the Frontier I visited, I do not do so to pose as an expert. Expert I am not, neither in mountain warfare nor tanks, nothing more than a student in both, consequently when I left Delhi on October 31st for the Frontier, I determined to view the whole question of mechanical warfare in that area with an open mind.

The Frontier may, for tactical purposes, be divided into two main zones, namely, the Northern and the Southern, the dividing line between which is the valley of the river Zhob. The Northern is extremely hilly, some of the mountains rising to well over 15,000 feet ; the Southern is less so, but what is more important from the tactical point of view is that it is inhabited by tribes of a less martial nature. The Northern zone, it may be said without fear of contradiction, is with few exceptions, unsuited for mechanized warfare on wholesale lines, but should the construction of roads continue, this condition may possibly change. Roads mean commerce, trade leads to prosperity, and should such wild countries as Tirah and Waziristan become prosperous it will follow that the tribesmen will live more and more in the main valleys, where, if necessary, they can be struck at by tanks and armoured cars. Such operations are, however, unlikely, for once

these wild people gain prosperity they will cease to be warlike. This possibility does not, however, exclude the fact that an invasion of India in the North must proceed *via* the Kabul river or the Kurram, that is, down the two main valleys and not over the mountains by goat tracks and by paths. Accepting conditions as they are to-day, I will now enquire into the use of tanks and similar machines in both these zones.

The Northern Zone is split up by the valleys of the Kabul, Kurram, Tochi and Gomal rivers and their tributaries; to these may be added the Swat and the Kunar, the second of which I did not see. In many places these valleys are of considerable width, and though the rivers flowing through them are apt to form many shifting channels, most of these are normally dry, and though in many places strewn with shingle and boulders, generally speaking they could be negotiated by tracked, or even six-wheeled machines. In the Kurram valley there is nothing worth mentioning which would stop a Vickers tank, and what I saw of the Jalalabad plain the same applies, though the going, on account of the nullahs is nothing like so good. As far as my opinion goes, seeing that heavily laden Dodge and other motor cars run daily from Landi Khana to Kabul, there is no reason why, in war time, a small well-equipped mechanized force should not fight its way, if needs be, from Landi Khana to Jalalabad in about 12 hours. And from what I have been able to gather of the condition of the road westwards from this town, I see no reason why, once the passes leading into Kabul are picketed, such a force should not be able to move from Jalalabad to Kabul in about twice the above time. It should here be remembered that the picketing of the hills for a mechanized force will be far less arduous than for an infantry column, seeing that to a large extent the danger of the bullet is excluded, and that generally speaking the points to be picketed will be only the rest camps and heights so close to the road that, should it be blocked, rifle fire can be brought to bear on the obstruction.

In frontier warfare, as it faces us to-day, there are two important tactical operations in which the tank would prove of great value, namely, the attack on a valley village, and the attack on a tangi, or nullah-gorge. In the first operation there are two difficulties, the village may be surrounded by sodden rice fields separated by mud banks some two feet in height, or it may, and will almost certainly, be protected by towers. I examined the fields carefully, and came to the conclusion, though I was unable to prove it by experiment, that a

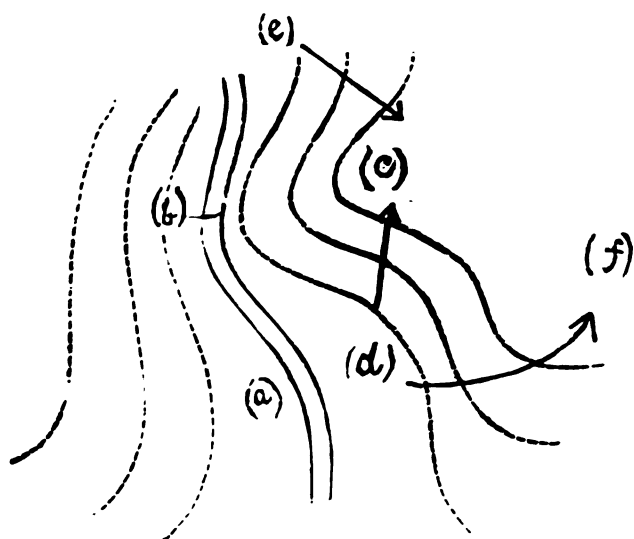
sodden rice field would be a formidable obstacle to all existing types of wheeled machines. First, the wheels would cut into the soft surface of the soil, mostly mud, and secondly, even if the front wheels surmounted the boundary banks many back axles would be broken. If, however, the field has about a foot of growth on it, I am of opinion that a light tank would cross it fairly easily, for the tracks would, in place of cutting through the rice stalks, beat them down into a mat which would go a long way to support the machine. Whether without this mat a tank would cross these fields when flooded, I doubt.

In an attack on mud towers, many of which are of great thickness and little damaged by field artillery shells, I suggest three courses of action : (1) That the tank haul behind it one or more oil drums (large steel casks) filled with high explosive, and trail these up to the tower in question, unhitch them close to it, set in action a time fuze, and then retire. There is nothing fanciful in this, for though such explosive casks were never used during the Great War, they were experimented with. The idea then was to trail 10 or 12 of them through a village occupied by enemy infantry. Each cask was equipped with a time fuze which could be set at a varying number of minutes. The cask could be released and the fuze set in action from inside the tank, consequently no man had to get out of the machine. (2) Use the tank as a smoke-producing machine, and when the tower is enveloped in smoke destroy it in the normal way, or occupy the village and besiege its garrisons. Gas or lachrymatory chemicals would obviously be more humane, but they are forbidden by the humanitarians. (3) Move the tanks up to the tower and fire shells through the loopholes.

In mountain warfare, the main line of approach is normally along a nullah, in any case the supply columns have to use nullahs or tracks, consequently the tribesmen will gather at points where nullah or track runs through a gorge. For infantry the forcing of a tangi is a particularly difficult and dangerous operation. The tribesmen occupy one or both sides of the gorge, a frontal attack is costly, consequently an out-flanking movement has to be resorted to, for it is common knowledge, once the tribesmen become aware that their rear is threatened they retire. I saw many of these tangis both in the Northern and Southern Zones, and was convinced that in attacking them tanks would prove of the greatest value. The one I will now examine in order to illustrate the tactics I suggest is the

Ahnai Tangi on the Takki Zam river, which was attacked by our troops in 1919, and where we sustained heavy casualties.

The sketch is purely diagrammatic as I have no large scale plan of this particular gorge. The Takki Zam is shown by the letters (a) (e). The Tangi is at (b) and the Mahsuds were at (c). The British Commander, so I was informed, could not force the Tangi, so he delivered an attack from (d) towards (c), his men being shot down in large numbers. In place of such an operation I suggest that a section of light tanks could easily have moved up the Takki Zam from (a) to (e), and at (e) have peppered the ridge (c) and so taken the enemy in reverse. Had this happened, and had the British



Commander moved towards (f) and from (d) have held the enemy by fire, he, in my opinion, would have suffered very few casualties and the enemy would either have been annihilated or have withdrawn. If I saw one such position as the Ahnai Tangi, I must have seen a hundred, nearly every nullah contains them. I do not suggest that in such operations as these the tank is normally going to slaughter the enemy, but I am certain that if tanks are used most of the difficulties of tangi fighting will disappear, and that nullah advances will consequently be greatly speeded up.

Turning now to the Southern Zone, mechanized warfare in this area approximates more closely to its counterpart in Europe. In this zone, though there are passes, such as between Harnai and Loralai,

which are as difficult as any in the north, generally speaking the country is more open, the most likely theatre of war, that between Chaman and Kandahar, consisting very largely of plain land. I saw no insuperable difficulties for tank operations down the Zhob valley, anyhow as far east as Kila Saifulla, and though the ground between Hindubagh and Bostan is more broken, tanks could operate over a good deal of it, as they could also along the Loralai river to Ziarat. South of Quetta I saw nothing of the country except the Bolan Pass, but operations in the neighbourhood of Kalat are unlikely. Immediately west of Quetta, though the country is cut up by hills, water-courses and nullahs, once the Kojak Pass is crossed what appeared to me to be ideal tank country is entered. Looking westwards from the top of this pass towards Kandahar, and knowing that motor cars daily travel to and fro from this city to Chaman, I see no reason why a mechanized force should not, in the war conditions to be expected, move from New Chaman to Kandahar in a day. If this can be done, then the whole strategy of the Southern Zone is changed, for Kandahar virtually is in our hands, and from Kandahar we can operate towards Farah and Kabul, both of which cities can to-day be reached from Kandahar by motor car.

My journey at an end, the general conclusion arrived at was that to-day, and more so in the future, tanks are a necessity for the defence of the Frontier, and for operations beyond it. I have no patience with the critic who will, and he certainly will, attempt to founder this conclusion on quick sands, precipitous crags, rivers in spate, kareses and boulders. All these things and many others are annoyances, but they are not insuperable difficulties. To examine so important and really vast a problem as the one under review, the fly-brained cannot help us. Our outlook must be broad as was that of Brownings "Grammarian"—

"That low man goes on adding one to one,

His hundreds soon hit ;

"This high man aiming at a million,

Misses an unit. "

Units I refuse to discuss, for I am convinced, after having seen some 1,500 miles of the North-West Frontier, that unless India accepts the tank and kindred machines her army must become obsolete. Thirty years ago it was difficult enough to beat the tribesman, badly

armed as he was. To-day as practically every fighting man in the Northern Zone is in possession of a modern rifle, and if a war comes, may well be provided with machine guns by the Afghans or Russians, my considered opinion is that the British Army in India must either be modernized or be prepared for a casualty list which will shock the foundations of our rule in that country. The problem to my mind is not should India accept mechanized weapons, but what types of mechanized weapons are suited to her war requirements. This problem I will now examine.

The General Staff in India, rightly, so I hold, consider that the Vickers tank and the present artillery dragon are unsuited to Frontier warfare. What are the conditions? Few railways, few roads, vast distances of approach, light bridges, intense heat and cold, sand and shingle, iron-hard ground, and a country which is agricultural and non-industrial. As an example of what all these things mean I will suppose that a battalion of Vickers tanks is to be moved in the hot weather from Jacobabad to New Chaman, and that the railway cannot be used. First, it will have to cross an almost roadless track from Jacobabad to Sibi, then it will strike a good road, and after crossing two high passes—the Bolan and the Kojak—will arrive at its destination. On paper it will do so, but in fact, I am convinced, it will not do so. I do not believe that with the existing tank four machines out of 50 would ever reach New Chaman; further still, most of the tanks left on the road would not be repaired for months, and the sick list would be enormous.

Though in my opinion the above is no exaggeration, and though it condemns the present type of tank, and the present type of dragon, it does not condemn all types, and the problem is consequently one of discovering a suitable type.

What are the requirements? It must be able to travel long distances; it must demand few repairs; it must not exhaust its crew and if possible, it should be very light and cheap.

The machine which at once suggests itself is the light tank, or tankette, a machine which costs about £500 and weighs something under a ton. Here lightness and cheapness (essential in India) are obtained. Now as to the other requirements, which may be bracketed under one heading, namely, endurance. I cannot see even an improved light tank travelling from Jacobabad to New Chaman, but

we know that in all probability a six-wheeled lorry would cover this journey with ease. Therefore, I suggest that the light tank be mounted on a six-wheeled lorry ; this done, it will arrive at its destination absolutely fresh. What is required in India is not a land battleship but a mechanical mounted infantryman.

The lorry will require the driver and his mate ; the light tank will require a crew of two men. I suggest three such crews, one to fight the tank and two in reserve. The whole of this outfit—lorry, tank and 8 men, will form the smallest tactical unit, and all the men will be carried in the lorry as well as their equipment and supplies.

The advantages of such an unit are :—

- (a) The personnel is sufficient to move, maintain and fight the tank, and the spare crews can be used for local protection when at rest.
- (b) The tank on the lorry can be used as an armoured car, in which case the engine and the driver should be armoured.
- (c) The tank is saved wear and tear in all purely logistical movements, its repair bill will be small.
- (d) The total weight of about 6 tons can be divided when weak bridges have to be crossed.
- (e) The crews travel in comparative comfort, and can replace the lorry driver when he is tired.
- (f) When tanks are not required, or are lost, the six-wheeled lorry can be used for purposes of supply ; and, when tanks are in action, to move infantry across country.
- (g) When very bad ground is met with, the tank can assist its mechanical horse over it.

It looks very much as if we had solved the problem, so I will now turn to organization.

I suggest, as a basis of discussion, that a company of these light tanks should replace one infantry company in every British battalion, and that this company should be organized as follows :—Three fighting sections of 7 tanks each, one being the section commander's machine. A headquarters section of 4 tanks, one for the company commander, and three for purposes of intercommunication. Besides the 25 six-wheeled lorries required to move these tanks should be added the following :—1 for baggage, 1 for cooking and rations, 2 for water, 1 fitted as a mobile workshop, 3 for spare parts, petrol, etc.,

and 2 for ammunition. The total company will then consist of : 25 tanks, 35 six-wheeled lorries and about 200 officers and men. The cost of 25 tanks and 35 lorries at, say, £700 a piece each, will be £42,000. The cost of 25 Vickers tanks would be nearly five times this figure.

To turn now to tactical requirements and weapon power, uniformity is important, therefore I suggest that the field gun, anyhow for India, should not be hauled by a dragon but by a six-wheeler. It may seem that this suggestion contravenes the principle of co-ordination through similarity of parts. To a certain extent it does, for if the field guns of the home army are hauled by dragons and those of the army in India by six-wheelers, a difference is established, but one nothing like so great as that which exists between a dragon drawn and a horse drawn gun. As in the Royal Tank Corps a driver is taught to drive a tank or an armoured car, I see no reason why the drivers of dragon drawn guns at home should not be taught to drive six-wheelers as well. In any case the probabilities are that when the artillery of the Territorial Army at home is mechanized, as eventually it must be, its machine will be a six-wheeler and not a dragon.

As regards mechanized machine gun battalions they are at present in their early infancy, only one exists in England and is not yet out of the cradle. If more of these units are to be formed there is no reason why they should not be equipped with six-wheelers. I am, however, of opinion that they are but of sporadic growth, and it will be found that the light tank transported on a six-wheeled lorry is tactically a far more useful weapon than the ordinary Vickers machine gun carried in the same vehicle.

For purposes of supply there can be little doubt, that, viewing the question from all aspects, namely, production, maintenance, repair and use, the six-wheeled lorry at present possesses many advantages over tracked and semi-tracked machines. First, it is a commercial vehicle, and secondly, the wheel for many years to come, is likely to be a more perfect means of movement than the track, its life will be longer and its repairs simpler and more generally known.

The conclusion is that the time has now arrived for the General Staff at home and in India to put their heads together and agree upon a definite policy of mechanization which will suit both European and Oriental tactical and administrative requirements. The six-wheeled, or multiple-wheeled, lorry is the starting point, because for supply

purposes complete coincidence exists between home and Indian requirements. The next point is to settle on the type of mechanized artillery suitable for both theatres. If it is found that dragon drawn, or transported, guns are necessary in European wars and unsuited to Oriental, then our artillery drivers must be given a dual course of training. So also with tanks. If the Vickers tank and similar machines are, as I think, essential for war in the West but unsuited for war in the East, then two types of tank will be required—a heavy and a light—and drivers must also be given a dual training. In my opinion, in any case, the light tank will be required by the army at home. I will now examine this question, as it forms the axle pin of my argument.

To-day infantry, except in mountain warfare, are incapable of carrying out an attack unless supported by tanks or large numbers of guns. This was proved conclusively during the Great War. The difficulty is the bullet-rifle and machine gun. As a rule, and this may also be proved by studying the infantry attacks of the last war, when a hostile machine gun opens fire the infantry attack halts, and tanks or field artillery are called into action. To ask a Vickers tank to destroy a machine gun, it seems to me, is somewhat like asking an elephant to stamp on a scorpion. Besides, the tank may not be at hand, and to be at hand it should belong to the infantry. If the gun is asked to take charge, time is lost in bringing it into action. It will almost certainly be well in rear of the infantry, and normally it is confronted with many difficulties before it can locate its target. If the machine gun is replaced by a hostile tank, the field gun is next to useless, unless it can be brought close up to where the infantry are, and the infantry are helpless unless supported by the gun, or equipped with anti-tank machine guns. If so equipped they find the greatest difficulty in carrying them. To render them mobile, these weapons must be placed on small mechanical vehicles which can move with the infantry firing line. This introduces the light tank.

With such a weapon the value of infantry is enormously enhanced. They can now deal with the enemy's machine guns without calling upon heavy tanks and field guns to support them. They have also a fair chance of protecting themselves against hostile tank attacks.

For European wars the light tank will have to be equipped with heavy and light machine guns, it is therefore of importance that both

these weapons should be of the same type, and that the gun-mounting in the machine should be similar for both. Thus, if the Vickers machine gun is to continue, then the anti-tank machine gun should be a Vickers heavy machine gun and not a Browning, etc., otherwise training will be complicated. If in India, anti-tank machine guns are not required, then all light tanks can be equipped with their lighter counterparts. Consequently there need be no essential difference between the organization of light tank companies in the home and Indian armies.

Yet another problem must now be examined. I have mentioned the importance of smoke in the attack on villages and towers. In a European war smoke is just as important in order to protect the approach of the light tank. I suggest, therefore, that a proportion of these machines be equipped with fifteen pounder mortars firing smoke shell. Excluding the section commander's tank, I consider that the ideal light tank section is one organized into three tank squads, or sub-sections, of 2 light machine gun tanks, 2 heavy machine gun tanks, and 2 mortar tanks. Thus armed the section can protect itself by smoke, and attack either infantry or tanks. All these machines, whether in the home or Indian Army should, I maintain, for reasons already stated, be carried on six-wheeled lorries. The only probable difference between the home and Indian machines being, that whilst in field warfare the light tanks should be roofless, in mountain warfare they should be roofed. This is a small point, for all machines can be so constructed that an armoured pent-roof can be slotted on to them.

I will now turn to the problem of maintenance and repair, as it forms the foundations of all tactical efficiency.

Right through the war it was the crucial problem of the Tank Corps. Right through the last nine years of peace which have followed the war it has remained the crucial problem. Curious as it may seem, though it is obvious that a battalion of infantry is next to worthless unless the men are fed, it is persistently overlooked that tanks are worthless unless supplied with spare parts. In the war hundreds of tanks were sent out to France without a single spare part accompanying them. What was the result? Tank cannibalism—machines fed on their like. If India is going to mechanize her army, whether the supply or fighting side, or both, may I suggest this to her General Staff. Think in terms of repair before you think in terms of tactics.

or use. Remember that every machine lives on spare parts. If you are going to spend a crore of rupees on machines, divide this sum in two and spend half of it on spare parts. Never in the history of the Tank Corps at home has there been a sufficiency of spare parts. Even to-day cannibalism continues, and to the mechanically-minded it is as revolting to see tank feed on tank, as it is revolting to the man in the street to see human beings devouring each other.

To conclude : My visit to India convinced me of many things : That not only is the tank as essential to military perfection in the East as in the West, but that opposition to it is founded on a bubble. I found the mountain warfare expert to be as hollow a fraud as his brother, the infantry expert, at home. The problem of the Frontier is essentially a mechanical one, though not necessarily a tactical one. The most economical way of conquering the Frontier is not by rifles and tanks, but by motor lorries. Two hundred years ago Scotland was a fastness of Pathans ; to-day, mainly thanks to the road, it is largely a country of engineers. If the present road policy is continued, I should not be surprised if in a generation from now it will be found as safe to travel through Waziristan as it is to-day through the Punjab. Let the lorry conquer the Frontier, then the one great problem of the army in India will be war on the plains. In such wars rapidity of movement is everything, therefore the army in India must mechanize. To-day India is agricultural, but the motor road will make her industrial, consequently her mechanized army will possess a home base of supply. The final problem is now reached, for in industrial countries mechanization is a certainty, as certain as was the eventual mechanization of the Navy in 1840, when steam power began to transform the Mercantile Marine. The final problem therefore is : Not, should the army be reorganised on a mechanical basis, but when should this reorganization begin ? Seeing that the whole of Asia is in turmoil, there can be but one answer to this question, which is *flat instantier !*

A CRITICISM OF THE ARTICLE "TANKS IN INDIA."

By

A CORRESPONDENT.

This article by Colonel Fuller, the well known writer on futurist war, written as the result of a flying visit to India during last cold weather, is an interesting one.

We must all agree with the writer's plea for uniformity of organization throughout the Empire as a cardinal principle, but it must be remembered that the Army in India exists primarily for India's defence and that consequently her specific problems cannot entirely be disregarded in an endeavour to create a weapon suitable for world-wide employment.

The first part of the article constitutes in effect a trenchant attack on the failure in India to march with the times in the adoption of tracked vehicles, and, more particularly, refusal to adopt the Vickers tank which, according to the writer, proved a complete success in 1926. This latter statement is hardly correct, and the latter part of his article is a complete vindication of the policy actually adopted in that he admits that the ordinary light tank is unsuitable for Indian purposes as it would be worn out long before it reached the battlefield. It may have escaped his notice—in any case he omits to mention it—that reluctance to accept a dragon-drawn field artillery brigade was based on similar reasons, the soundness of which now appears to be accepted at Home, in that the tendency is to follow India's lead in experimenting with six-wheelers for the traction of field artillery, rather than with delicate and extremely costly all-track vehicles. Again whilst we may agree that the cross-country armoured vehicle might be extremely useful on occasions in securing a practically unopposed passage through a tangi, it is well to remember that the chief difficulty in frontier warfare is to bring the enemy to battle as soon as possible, and that the views expressed on this subject by General Callwell in his "Small Wars" are as true to-day as ever they were. As regards the specific instance which Colonel Fuller quotes, namely, the battle for the Ahnai Tangi, it must be remembered that this action occurred at the end of the world war and that our troops were either war-weary or untrained in hill warfare, indeed the whole standard of efficiency was markedly below that reached by the Army in India in

normal conditions. As a natural consequence our casualties were far heavier than they would otherwise have been, but even so it was this battle which, by inflicting heavy casualties on the tribesmen, really took the heart out of the enemy and facilitated all subsequent operations.

His views on the country west of Chaman and its suitability for M. T. vehicles are, of course, matters of common knowledge in India, but we think that in dealing with the advance to Kabul, he dismisses somewhat light-heartedly the difficulties of piquetting the route, and also the possibilities of broken bridges, rock-shoots and other "annoyances" which indeed merely arouse his contempt.

Colonel Fuller, having decided that tanks must be employed and that the ordinary fighting tank is of no use on a great proportion of the frontier, proposes to solve the problem by carrying tankettes in six-wheeled lorries. He may be right, but one must remember that the tankette, as it stands at present, is in the purely experimental stage and, even on comparatively good going in England, sheds its parts with impartiality and freedom. It is probable that a terrain which breaks up the track of the heavier tank will have an equal or possibly a greater effect on these small vehicles. There is nothing, at present, therefore, to show that his proposals have any advantage over the line of development in which India is taking a leading part, namely, the mounting of armoured machine guns on ordinary six-wheeled commercial vehicles, which it is hoped will be given a thorough trial during the ensuing year. Generally speaking, the terrain of the frontier is such that it should either be passable by six-wheelers or incapable of being traversed by any form of mechanical vehicle.

It is satisfactory to note that Colonel Fuller entirely approves of the long accepted policy on the frontier, namely, development of roads with a view to the maximum utilization of M. T. in substitution for animal transport, and consequential reduction in useless mouths and general increase in mobility. But, as he rightly says, India to-day is an agricultural country and the problem of maintaining the necessary M. T. in peace time and expansion in war is a very real one, the difficulties of which are probably only fully appreciated by those who are trying to solve it. *Festina lente* is we fear more applicable to this complex problem than *fiat instanter*—though less satisfactory as a journalistic slogan.

THE ADMINISTRATIVE WORK OF THE BRITISH ARMY IN FRANCE DURING THE GREAT WAR

A LECTURE DELIVERED BY MAJOR-GENERAL H. E. AP RHYS PRYCE,
C.B., C.M.G., D.S.O., AT SIMLA, ON THE 16TH AUGUST 1927.

The general impression of an army is that it is something that fights, and subsidiary impressions vary from its being a kind of horribly expensive *choukidar* to a very necessary insurance for peace. In the conflict of these opinions it is often lost sight of that in any army, there is roughly one man employed in maintaining every two fighting men, and that in a theatre of war, that man is generally supplemented by a civilian, to help him maintain the two fighting men, and then behind that, in a really big war, a whole nation has to be mobilised for maintenance services. It was thought that a lecture on these services, illustrated by what actually happened in France during the Great War, would be useful in explaining what really takes place behind all the fighting; how the civilian as well as the military are affected, and that without these maintenance or administrative services, the efforts of the fighting man in a very short time are rendered of less and less value. Modern weapons and inventions have increased the importance of these services whose often unknown and taken for granted work has an important influence on the fate of armies at the front.

The chain of command and administration which mainly affected the army in France during the Great War is shown on sheet 1, and commenced not as you would think only in the field but in England with off-shoots all over the world. The War Cabinet directed general policy and by its representatives in the Allied Council strove for co-ordination of effort and of the utilization to the best advantage of world resources. As the war progressed every kind of demand came in and it was found essential to form a War Priorities Committee whose duty it was to see that demands were only met in accordance with their real comparative importance, and to watch for signs of demands of any article or service becoming greater than the supply. The moment these signs were seen interdepartmental boards or committees were set up (some 20 in number) to allocate the available supply in proper proportion and to see if the supply could be improved, or substitutes employed.

The Ministries or Services the War Office was mainly concerned with were those shown on the table. The Food Ministry dealt on a system of rations with the distribution of the available food supply according to the numbers of men, women and children that had to be fed and the work they had to do. Salvage helped to see that there was no waste.

Apart from seeing that the army got its share, the chief point of interest was deciding as to what should be used for food and what for explosives. For example some 30,000 tons of glycerine were wanted one year for explosives and the world supply was so short that it became a question of encroaching on food materials to extract the same. National services dealt with man power and the numbers to be allotted annually or to meet special occasions for the various trades, army, navy, etc.

Munitions was the first of the War Ministries to be formed and was probably the best known. It originated owing to the dispute over the shell shortage in France, and the necessity for scouring the world for war requirements. It acted wholeheartedly and with a broad vision, and overcame difficulties wonderfully. To show you what it had to cope with I may tell you that a year's supply of gun ammunition in peace time was less than a day's requirements in battle in 1918.

The wholeheartedness of the Ministry was shown by the fact that when the War Office put in an estimate for guns for the 70 Divisions to be raised, the Ministry added 100 per cent. straight away and as events proved even that had to be increased. In all, the Ministry produced some 35,690 guns, 71,355 machine guns, 1,68,485 light automatic guns, 50,90,422 rifles, 70,000 aeroplanes, and 2,818 tanks. The Ministry's efforts generally were so successful that in 1918 it had to put a limit to what it could do mainly because of insufficient shipping to carry what it could have produced, and this in spite of the damaging effect of the German advance in 1918 which resulted in the colliery strengths being depleted to find men for France and in the loss of mines in the North of France. It was found easier to dilute ordinary munition workers than colliers.

Shipping.—The amount of tonnage available was a constant source of anxiety accentuated by the submarine campaign. The two main principles employed to utilise it to the utmost were:—

(1) Central control.

(2) Drawing supplies from the nearest source of origin.

This was successful in that, before the war, our shipping of 12,000,000 tons only imported 35,000,000 tons. In 1917 with only 7,500,000 tons of shipping we imported 31,000,000 tons and that after lending other nations some 2½ million tons of shipping.

When the Americans came into the war there was a constant weighing of the respective value of 1 American soldier as against 3 tons of supplies, as he took up the same space in a ship. Roughly we gave up 300,000 tons of supplies monthly to get the Americans across.

The Executive Railway Committee had been formed in 1912 as a part of the Board of Trade and on the outbreak of war took over practically all the railways. Its task was co-ordination and dealing with the problems common to all railway systems and it was in constant touch with the Director General of Movements and Railways: a member of the Army Council.

We now come to the direct touch between the Army Council and the British Army in France. Questions of policy, or matters of general principle having large application, after being settled between the War Cabinet and the C. I. G. S. were given effect to by the Army Council by means of communications through the Secretary War Office to the C-in-C. in France and other theatres of war. Matters of detail were adjusted between the staffs concerned, or, in technical and financial matters, between the Directors concerned.

Now before dealing with what actually happened between the B. E. F. in France and the War Office one must realise what administrative work actually means.

Briefly it can be described as supplying the force in the field with everything it requires and keeping men fit for fighting and getting rid of all the unfit; repairing whatever can be repaired and using it again. This can be divided again into two activities, maintenance, which is keeping up the necessary stocks of men and material, and movement, which is shifting the same as required.

This diagram shows you the general principle (sheet 2).

First everything went to the base where base or main depôts were formed to hold reserves in case of our shipping communications being cut.

Then as we get nearer the armies we get intermediate depôts of three kinds (1) for holding local purchases that could be made on a large scale such as coal, timber, hay and road metal, or (2) precautionary in case of a railway being damaged at an important bridge and supplies being unable to come up from the base, (3) for holding reserves for garrisons of posts on the L. of C. Lastly we get the Advanced Depôt when an L. of C. is long.

From one or more of these depôts the daily requirements go forward to train regulating stations whence trains are sent to Army Corps and Divisional Railheads in accordance with the day's requirements and locations, and from Railhead are sent on by lorries to the various units.

The above is the general principle involved in sending up the fit to the front. Now we come to dealing with the unfit, which have to be cleared away so as not to hamper the fit.

There are 3 lines of repairs, the first for the trivial repairs with the unit, the second for more serious repairs requiring attention a bit out of the hurley-burley of the fight, and lastly the L. of C. for really serious repairs. Anything that could not be repaired was either buried, destroyed, left waste, or salvaged and turned into something else. Examples of repairs are—In the case of men, the unit medical officers and advanced dressing stations treat trivial cases, main dressing stations and casualty clearing stations treated more serious ones, and the Base or General Hospitals treated the worst. Lorries are treated by unit artificers in the first place, then by the M. T. Company workshops, and lastly by the base or main workshops. This principle applies to everything. Whatever names are given to the various repairing mediums, hospitals, workshop, repair factory, etc.

The whole of the flow backwards and forwards was carried out in accordance with the general policy of the C.-in-C. as communicated by his staff to the Directorates concerned.

The actual working arrangements for the movement of personnel and stores in France were based primarily on the Dock Tonnage Programme which was drawn up at the beginning of one month for the ensuing month.

The process by which this programme was evolved was as follows :—

The C.-in-C. having decided on the spheres of operations definitely for the next six months and tentatively for the next

12, the force required in units, and framed a rough estimate of what this meant in ammunitions, guns, roads, railways, etc., the broad requirements would be worked out by Directorates.

This period ahead may astonish you, but I remember an officer telling me that Sir Stanley Maude used to say constantly in Mesopotamia that in the hot weather you must think of what you require next hot weather and in the cold weather of what is required next cold weather.

I remember my astonishment too, when shortly before the 3rd battle of Ypres at a Conference when Sir Douglas Haig was told that the water supply arrangements were not as far advanced as they should have been, he said "and I ordered that a year ago."

The directorates would have their own approximate forecast of requirements for some time ahead, and at the beginning of a month would draw up a definite statement of tonnage likely to be required during the next month. This was sent to the Director of Docks who, after finding out from the Director of Railways and Inland Water Transport what they could move from the various ports, put up a proposed programme of required shipments to the various ports to the Q.-M.-G. for approval. When approved it was sent to the War Office who submitted it to the supplying departments who altered it if unable to supply in full. The demand was then sent to the Ministry of Shipping who allocated the tonnage available as possible. If this could not meet the W. O. requirements a compromise was effected and the result sent out to France and the services prepared accordingly. For personnel on leave and for sick and wounded permanent ships and trains were always allotted, a small reserve being maintained for any increases. The sick and wounded averaged during quiet times about '3 to '4 per cent. daily and rose in battle to 5 or even 20 per cent.

I will now deal with the actual administrative directorates. These altered and changed in accordance with actual needs or further experience, sub-directorates becoming directorates as they increased in importance or *vice versa*.

Transportation was the most important in many ways. The first thing was to arrange for the reception weekly of some 140 to 150 ships carrying about 170,000 tons of stuff to our various ports. From August '14 to Armistice Day in all 25,497,151 tons were imported, of which 38 per cent. were supplies, 21 per cent. ammunition, 16 per cent.

coal, 7 per cent. ordnance stores, 6 per cent. R. E. stores and the balance 12 per cent. of comparatively small amounts of other services requirements. In addition very nearly 11,000,000 personnel and 808,000 animals were conveyed to France.

The main task before the Docks Directorate was to direct ships to the ports as required and suitable for their draft, and unload them quickly. It was found that allowing stores to be kept in dépôts in docks led to fearful congestion and slow unloading, and it was laid down as a principle that docks must be only used as a transit area and that immediately after being unloaded, stores and personnel must be cleared away to a dépôt or camp of the service concerned outside the dock area.

After this principle was introduced the number of tons per hour per vessel unloaded, rose from 12·5 to 34·4 tons or nearly 3 times as much and the number of ship days lost, *i. e.* ships kept waiting outside a harbour for any empty berth, decreased from an average of 13 a day to just over 1 a day.

Various time saving appliances such as extra cranes, gravity rollers and pneumatic suction plants for oats were introduced. Of oats we imported 85,000 tons a month and the installation of these suction plants is calculated to have saved £10,000 a day on labour, or about £ 3½ per ton of oats.

The Docks Directorate supervised also the Cross Channel Train Ferries and the Cross Channel Barge Service. The former ran from Richborough to Calais or Dunkerque and from Southampton to Dieppe. Each ship carried 54 wagons on a trip and the whole lot could be unloaded in 18 minutes. "They were very useful for big guns and even successfully carried four 14" guns which with " their railway mountings were 87 feet long and weighed 296 tons, a task impossible for the ordinary ship unless the guns were taken to pieces. The Cross Channel Barge Service was a useful auxiliary, in fine weather carrying about 25,000 tons a week, but in the winter with wintry weather the tonnage carried fell off to about half. It mostly carried ammunition which was delivered direct to dépôts at Vendroux and Zenenghem.

Railway traffic afforded in some ways some of the most interesting problems of the war in France.

First feeding our Army at Mons from Le Havre and Rouen, then the daily alterations during the retreat and the starting of a quite new

line from Nantes and St. Nazaire through the vicinity of Paris to the Marne. Then a swing back to the North again with lines from the Northern Ports. Comparative stabilisation for some 3 years and then the loss of many lines and finally the extension forward when we made our advance in 1918. Even during the stabilised period of warfare as attacks were made first in one spot and then in another, the railway arrangements had to be constantly altered. You can imagine what the task was like in March, April and May 1918 when we lost the Amiens-Arras Lateral, then our 2nd lateral with St. Pol difficult to get through, Cheques precarious, and Hazebrouck unworkable. Everyday frequent changes of over 100 railheads for supply, ammunition, reinforcements, stores and medical. In addition the railways and ports were constantly bombed and the telephone and telegraphic communication cut thereby. We were very lucky in having finished a deviation only the day before the viaduct at Etaples was damaged. Though Mechanical Transport had to make good the results of the disorganisation near the front, on the whole the railway service did wonderfully, running on an average some 250 trains a day rising in times of fierce fighting to 310 trains a day. To show you what fighting really means it was calculated that on every day of hard fighting 1,934 tons of every kind of supplies and stores had to be delivered for every mile of the front of the fight. That is roughly 3 long goods trains for each mile.

In addition, 41 ambulance trains were employed generally all the time in France.

During the advance however, the Railways task was very difficult owing to the Germans having destroyed all bridges and the watering arrangements for engines, having damaged stations by blowing up ammunition wagons in them or setting fire to them. In addition sometimes a week or a fortnight after we had been working on a line a great bit would be blown out by delay action mines.

The Construction Department did wonders reconstructing in 1918, 1,581 miles of line and building 759 miles of new line.

During the war the total length of single track bridges built came to just over 7 miles. During the advance in '18 trestle bridges were mostly made and the Scheldt, 100' wide, was bridged in $4\frac{1}{2}$ days for railway traffic. $8\frac{1}{2}$ million tons of ballast for railway tracks were used which is equivalent to about $3\frac{1}{2}$ times what would be excavated

from the Channel Tunnel. Light railways were used mostly in forward areas to supplement the road traffic and to go where the broad gauge could not get. They were useful up to a certain extent, but they were very wasteful in personnel as for the same tonnage they employ 5 to 6 times as many men as a broad gauge would. Moreover it was found that when, as at Paschendale, there was real heavy shelling they required about 20 men per mile for constant repairs and were inferior to road traffic as the lorries could generally get round shell holes in a road. Their main use was for ammunition and stores and they carried in 1918 about 150,000 tons weekly. The Military Forwarding Department worked under railways and was responsible for the despatch of all private parcels above postal weight (11 lbs.). Comforts for the troops, free issues of newspapers, kits of wounded and killed, and stores of all kinds from or to the various services which were in small lots not taking up full wagon loads. Roughly this department dealt with about 4,000 packages a day.

As railways are a somewhat technical affair I may mention some of the grouses that railways had against the military.

(1) Signals did not provide strong enough Telegraph and Telephone sections for keeping up with troop railheads and construction railheads during an advance.

(2) Faulty organisation in army areas the organisation being top heavy with non-executive officers with insufficient technical knowledge. This caused a lot of unnecessary construction in light railways mainly through the broad gauge not having been brought into touch with road traffic by means of sidings, and roads having been unnecessarily given up for light railways.

(3) Having broad and light railways under a separate organisation instead of one.

(4) Not having permanent railway labour allocated to the railways so that the men would get accustomed to their work. It was calculated that 30 % of the labour was wasted thereby.

The Roads Directorate constructed about 1,000 miles of road per annum. This required in 1918 about 3,000,000 tons of road metal and 1½ million tons of timber for timber roads.

Before the German attack in 1918, several miles of timber road were made near St. Omer in case we had to flood the country so that we could retire thereby and destroy the road behind us.

The next great service was that of Supply and Transport, responsible for greater imports by more than double of any service. Starting in 1914 by providing for 120,000 men, 40,000 animals and 1,200 M. T. vehicles, in 1918 it was providing for 2,260,000 personnel, 404,000 animals and some 60,000 M. T. vehicles.

It had to feed not only British, but Indians, French, Italians, Belgians, Portuguese (28,000), Americans, Egyptians, South Africans, Cape Boys, Kaffirs, Russians, Fijians, Roumanians, Chinese, some 90,000, and German prisoners of war 264,000.

This involved a monthly provision of some 10,000 tons of meat, 65,000,000 loaves, 10,000 tons of groceries, 6,000,000 tons of forage for animals and 13,000,000 gallons of petrol, apart from other items. Supplies were despatched along two main lines the Northern and the Southern. The Northern had its main depôts at Calais and Boulogne with a subsidiary one at Dunkerque. Owing to the short distance to the front there were no advanced supply depôts or regulating stations on the Northern line, trains being packed ready for formations at the bases and sent direct to railheads. One train of 40 wagons carried supplies for 2 divisions.

The Southern line 3 main depôts were Dieppe, Havre and Rouen with a subsidiary one at St. Valery for the troops at Abbeville and Etaples. Trains were sent to regulating stations at Abbeville and Abancourt, where there were also Advanced Supply Depôts, and thence to railheads. When I mention a place like Calais as a base or Abancourt as an advance base it must be realised that that is only a term for a large area centring round that place, as owing to aerial attacks a base or advance base must be well scattered. In addition to the above L's of C. we had a Marseilles line which dealt with the Mediterranean ports and a Southern L. of C. which was the rest of France.

G.-H.-Q. had nothing to do with the routine of sending up supplies. The whole business was automatically arranged as under apart from minor details.

Senior Supply Officers of Formations sent in indents daily to the Railhead Supply Officer on whom they were dependent. These sent the demands on to D. Ds., S. & T. Armies, who demanded on Base Depôts in the Northern Line and on Advanced Supply Depôts and O's. C. Regulating Stations in the Southern, and they in their turn demanded from the Bases. In these bases reserves of 21 days

were usually kept and in Advanced Supply Depôts 14 days rising to 30 if operations were contemplated.

These supplies were not only obtained from Home but also by local purchase in France where we bought about £6½ millions worth of supplies. The large numbers of men to be fed enabled us to instal large automatic bakeries and reduce the cost of producing bread from 3-6 per 100 loaves to 1-2 while increasing the output per baker from 246 lbs. to 731 lbs. daily.

Salvage of messing bye products such as skins of rabbits, flour sweepings, tin and solder from biscuit and meat tins, flour sweepings, fats and glycerines, brought in eventually something like £1,000,000 a week.

The Investigation Department was really a Travelling Audit and Accounts Branch composed mainly of business accountants who helped enormously in seeing that the £80,000,000 worth of supplies we handled annually were properly accounted for. Their arrangements were very good and an A. S. C. officer on going from one charge to another could get a clear receipt in about 4 days. It took 2 to 3 years here after the Afghan War.

I suppose the E. F. C. was one of the best known institutions in the Army providing comfort for the soldier and the luxuries he loves.

We had 577 canteens in France in addition to Rest Houses or leave billets for the men, officers' messes, recreation huts, cinemas and mineral water factories. The Havre leave billet could feed 7,000 men in an hour and do 22,000 meals a day.

Roughly the E. F. C. used to sell about £18,000,000 worth of stuff in a year.

Agricultural operations did not attain the magnitude they did in Mesopotamia where I believe we had 750,000 acres under cultivation in 1918 and were preparing for twice that amount in 1919, as the only areas available for us was in the rearmost portion of the fighting area from which the French had been evacuated. But some 50,000 acres were prepared and helped us in potatoes and vegetables.

The M. T. was a very important service and there were two very interesting points in its career in France. Starting with 1,100 vehicles in 1914 its repairs were according to regulation at first carried out by the Ordnance, but that Corps which at the beginning of the war had only 1,390 personnel had enough to do in dealing with

clothing, equipment, guns and ammunition which by the end of the war required 15,800 personnel. So the repairs of all R. A. S. C. transport was left to that corps and in a big war this is sure to happen again.

The second interesting point was that from 1917 onwards owing to accurate shell fire the light railway system in the forward areas broke down and in 1918 as the battle line swung backwards and forwards with the German advances in March and April and ours in August and onwards the railway systems at the front were so disorganised that the situation in both cases was saved by the M. T. A drastic reorganisation of the M. T. took place in 1917 and all the M. T. specially formed for various types of units were withdrawn and formed into homogeneous companies which worked to supply the most pressing needs of the moment instead of only serving their own formation.

This system of pooling will have to be effected in future if economical working and the avoidance of non-working transport is to be attained. In the last year of the war we had some 90,000 vehicles of which 26,000 were lorries, 5,000 cars, 14,000 motor cycles, 2,500 vans, 35,000 ambulances, and 9,000 miscellaneous.

There were 17 different makes of lorries, 9 of cars and 4 of motor cycles. Some of the working results were found to be :

15% constantly under heavy repairs.

20% wastage annually on most vehicles.

200% wastage annually for cycles.

Each vehicle required in the course of a year about 80 spares and an average of 8 gallons of petrol daily per vehicle was consumed.

Tyres had to be replaced every 5 months and inner tubes every 6 months. With these figures you can imagine the blow we experienced when on the 11th August 1918 an air raid at Calais caused a loss of spares for 19,000 vehicles. The M. T. worked mainly from railheads to units if they could get straight up to them, or to refilling points if loads had to be transferred to horse transport. If units were at a railhead they employed their own transport and the M. T. was usefully employed in bringing up stores in preparation for battle or construction work.

With the introduction of 6 wheelers it is hoped to be able to reduce the horse transport and to permit of a large use of M. T. off the roads and there is sure to be a great development in this line.

The Ordnance Services had a heavy task on it. We will take its chief items one by one. Ammunition I suppose will come to the minds of most first. Starting in 1914 with 2 ammunition trains, at the end sometimes 120 ammunition trains were in use, and instead of 486 guns it served 8,271 in France. Starting with a reserve of 696,000 rounds of gun ammunition, we maintained in France at the end 15,000,000 rounds and sent in all to France 187,342,870 rounds of gun ammunition. During the last year on an average we fired about 8 million rounds a month weighing 200,000 tons and costing £30,000,000. Daily expenditure varied from 4,000 tons to 9,000 tons rising on battle days to 20,000 tons. Our heaviest days expenditure was 943,847 rounds weighing about 24,000 tons and costing £3,871,000.

Some preliminary bombardments were :—

Arras 2,600,000 rounds cost £13½ million.

3rd Ypres 4,250,000 rounds cost £22½ „

Messines 3,500,000 „ „ £17½ „

The layout of ammunition depots and dumps was a great difficulty. The best site for a depot was sand dunes with irregular plantations on it, and the Daunes-Camier Depot which was twice as large as any other was never found by German aircraft. Our heaviest loss was at Andruicy when 9,000 tons were lost by aeroplane attack.

In addition to ammunition dumps the Ordnance maintained ammunition repair factories.

There were also depots for guns, rifles, etc., repair shops for the same, and boot, harness, clothes, equipment, gas masks, gum boots, etc.

At the beginning of the war boots were only found to last 6 to 8 weeks and in all the ordnance had to condition and repair some 9,000,000 pairs of boots.

The troops in the field were maintained through the D. A. D. O.S. of Divisions and Corps Troops who sent daily demands to the depots for requirements. I won't give you a list of requirements as they run into millions and comprised thousands of different items.

The Directorate of Works had to deal with practically all buildings, electrical supply, power installation, water-supply and sanitary systems. It built more than 1,200 hospitals, camps, depots, schools of instruction, machinery installations, etc., apart from many minor works. Large fire protection systems for the same were installed.

Its store branch dealt with thousands of tons of material, the sight of which was hated by every infantry man who probably carried tons of it during the war, as before an attack, R. E. store dumps on a scale of 5 tons of stores per yard of active front had to be prepared. Barbed wire in 1918 averaged for some time 6,000 tons monthly and in April rose to 10,000 tons. Duckboards averaged about 5,000 a day.

Nissen and other huts just under 600 a day and timber and stores 1,200 tons daily.

Forestry grew to such large dimensions that it had its own Directorate. In France we had 56 Forestry Companies strength 7,000 who obtained timber in the area occupied by the B. E. F. and by permission of the French in 3 other areas, one down by Bordeaux and Bayenne another by the Jura Mountains and the 3rd called the Central South of the Seine near Aleneen.

In a year we produced 1,720,000 tons of timber.

The French having lost in 1914 most of the quarries on which they relied for road metal we had to form a quarry directorate which developed the La Marquise Quarries and produced 3,250 tons of metal-ling daily.

The Remount Directorate started the war with 23,000 animals in the Army and in 12 days impressed 165,000.

This impressment afforded me one of my bright moments at the War Office in the first fortnight of the war when I got a letter which read as follows :—"Dear Major Pryce—could you get father's horses commandeered. They never win a race and they eat up all our pin money."

In France the Remounts kept up a reserve of 4 per cent. on what was in the field and this was found ample.

Remounts not only had the task of replacing unfit animals with the troops but in conjunction with the Veterinary Service had to help in inculcating a high standard of horsemanship the knowledge of which was not very high in the new army. The Inspectorate of Horse Economics and Feeding helped them in this task and saw that economies were brought about not only in feeding of but in the use of animals.

The Veterinary Service in all treated 7,25,216 cases of which they cured about 75 per cent. They were very successful in keeping down skin diseases and glanders which are usually a great scourge amongst

animals in war. At the end of the war the service had room for 40,000 sick animals.

In that search for economy which characterised the services it is somewhat striking to know the solemn accuracy with which the Veterinary Service record the amounts of money which it expected to get from a dead horse, £1-0-0 for the hide, 5/- for the bones and hoofs, 9d. for the hair and so on up to a total of £ 4.

At certain veterinary hospitals they even produced gas from decaying flesh and manure which was used for heating purposes instead of coal.

Something like 2,50,000 animals became casualties in France during the war. 1917 was our worst year when we lost about 28 per cent. owing to the Somme offensive which debilitated the animals so much that they died rapidly when we had a cold spring in 1917.

In France we originally had 3 separate directorates for Claims, Requisitions and Lands the last under Works. In course of time it was found convenient to amalgamate them and the 3 became Hirings, though still working in sections.

Claims dealt with all claims for compensation for damage done to land, crops, premises of the French and for personal injuries, fires, etc., caused by us. We paid altogether about 30,000,000 francs and apart from the usual haggle over the amount of the claim, the only point of interest that cropped up was what was a military necessity and what was not, as at first attempts were made to make us pay for the rear line trenches and defences as not being a military necessity but that was soon stopped.

Requisitions dealt with all requisitions, notes and billeting claims, and hiring questions in army areas.

Lands originally did Hirings on the L. of C. but later was amalgamated with the sub-section of Requisitions that did Hirings and the eventual form of the directorate was as shown, viz., Claims, Hirings, Requisitions.

The Postal Service opened with 34 Post Offices and 300 personnel which rose by the end of the war to 523 and 3,525 respectively. You might find a Field Post Office in the most extraordinary places, one of Bairnsfathers. "We live in a farm" sort of a house, or under a tattered tarpaulin. But so long as the Corporal and his two men had their iron box of stamps, postal orders, cash, etc., they felt they were a postal office.

About 100 railway trucks and 240 lorries were required constantly to deal with the 11,000,000 letters received from England weekly and the 9,000,000 sent to England. whilst in France the local post was about 5,000,000.

The correspondence is astonishing coming to about a letter a day per man, and I suppose can only be accounted for on the principle that "absence makes the heart grow fonder."

The Printing and Stationery Services started with 10 men which in course of time became 922. It was divided into 4 sections. firstly, the Printing and Photography Company which produced Training Pamphlets, Technical Instructors, Posters, etc. They had 8 Linotype machines and could produce an order of battle of 120 pages in 36 hours.

The Photo Section had to supplement the Air Force Photo sections in order to produce the large numbers of photos required to assist the troops in locating the enemy's dispositions. The section could produce 5,000 photos daily and in 1918 produced in all 2,244,750 photos.

Secondly, the Publication Company which issued F. S. Post Cards, green envelopes and printed matter and sent out weekly about 350,000 separate packets.

Thirdly, the Army Printing and Stationery Depôts where 1,104 Army Forms were maintained.

The typewriter section—consisted of 33 mechanics who constantly toured round to look after the 7,200 machines in the Army. During the war only $2\frac{1}{4}$ per cent. of the typewriters were lost.

Salvage came into being for two reasons, firstly the obvious waste that was going on at the beginning of the war, and secondly the necessity, as world supplies became less and less able to meet demands, of utilising everything to the full.

Arrangements were therefore made to impress upon troops that they must salvage everything in their area and in addition in each division small salvage companies were formed. These moved with their divisions which was a mistake and eventually a proper salvage directorate was formed with companies working permanently in areas.

The Administrative Services also collected all that belonged to them that could be used again either immediately or later on after repairs. After an action brigades used to when feasible have salvage

parties for picking up the debris of a battlefield and re-arming and re-equipping themselves with what was usable.

Apart from re-issuing what could be used of salvaged material for its own special purpose, a regular by-product branch grew to utilise somehow or other in another way the balance.

Some of the most notable by-products were :—

Tin and solder from old cans.

Soap and glycerine from fat and bones. The price of this glycerine was 1/5th of the market price. I have mentioned various other economies under Supplies and Veterinary, but roughly Salvage saved some £50,000,000 a year.

Working hand in hand with Salvage were the Inspectorate of Messing and Economics who by their measures were able to reduce the daily rations from 4 lbs. to 3 lbs. 6 ozs. by proper training of cooks and by noting carefully what the men eat and what they threw away and very soon saved over £50,000 a month. The Inspectorate also ran a pig farm which made a profit of 14·3 per cent. a year. The Inspectorate of Horse Feeding and Economics did similar good work.

The Survey Directorate is under the General Staff and is responsible for preparing and keeping maps up to date, these ran into millions.

Labour started with very modest ideas, i.e., that only a few civilians, supplemented by fatigue parties from the troops would be required.

But the Belgians and the French required most of their civilians for themselves whilst the enormous amount of labour required for dockwork, road and railway construction soon showed the necessity of having organised labour under military control.

Labour battalions were formed for making defence works and to meet the needs of the various services.

This prevented switching labour as required, so Labour Companies of 500 men each were formed who were allotted to the various services as necessary.

A mistake was made in putting the Companies under a Camp Commandant or O. C. Corps or Army Troops for discipline, under Q. Staff for movements, rationing, etc., and under their own Company Commanders and Labour Commandants for advice.

This extraordinary mixture of responsibility had to disappear and the Company Commanders became Os. C. in the real sense of the word.

At the end of the war there were some 2,50,000 labourers from all over the world of which the most numerous were the Chinese some 90,000.

The constant problem that comes before a Director of Labour, is the demands of the services to have a permanent allotment of labour none of which should be taken away even when times are slack. From the efficiency point of view he has to arrange for finding out what is the minimum number constantly employed, and leave that with the services, switching the balance where most needed. The value of a permanent minimum is great as the men get to know their work, and are useful in showing temporary additions how to work.

The Pay Directorate in France had the task of paying out £218,500,000 or roughly £1,400,000 weekly.

Its task was complicated by having to deal with 36 different currencies, 140 Chambre de Commerce notes and some 1,500 coins and notes of different values.

Money required in France was received by means of British Treasury orders on the French Ministry of Finance. Thanks to the broadminded attitude of the Bank of France, these were placed with any convenient branch of that bank and the amount placed to the credit of the Command cashier.

The Pay Directorate also had to arrange for repatriation of money, *i.e.*, sending back to England, English money taken to France and French money taken to England, back to France. These exchanges sometimes used to be as much as £25,000 a day.

An index of all names of persons to whom payment for billeting charges, local purchases, hirings and damage claims to some 500,000 in all was maintained and saved us being swindled of 1,321,468 francs in double claims. The accuracy of the Pay Department was testified by the fact that on the whole war they were only 6 francs out in their accounts on every million they handled.

The Medical Directorate in France had a heavy time for out of every 100 men sent to France some 55 became casualties, of which 37 were wounded, 11 killed and 7 missing. The losses according to the official statistics were much heavier, than in any other theatre of war.

As against the 55 per cent. casualties in France the figures for other countries were —

Gallipoli	..	23 per cent.
Mesopotamia	..	16 „
Egypt	..	7 „
Italy	..	5 „

It may interest you to know that the Navy only lost 2·5 per cent. in the whole war, whilst in the R. A. F. for every 100 machines that went up in the air there were about 3 to 6 per cent. casualties ordinarily and in battle time about 12 to 13 per cent. but on the whole R. A. Force it was only about 4 per cent.

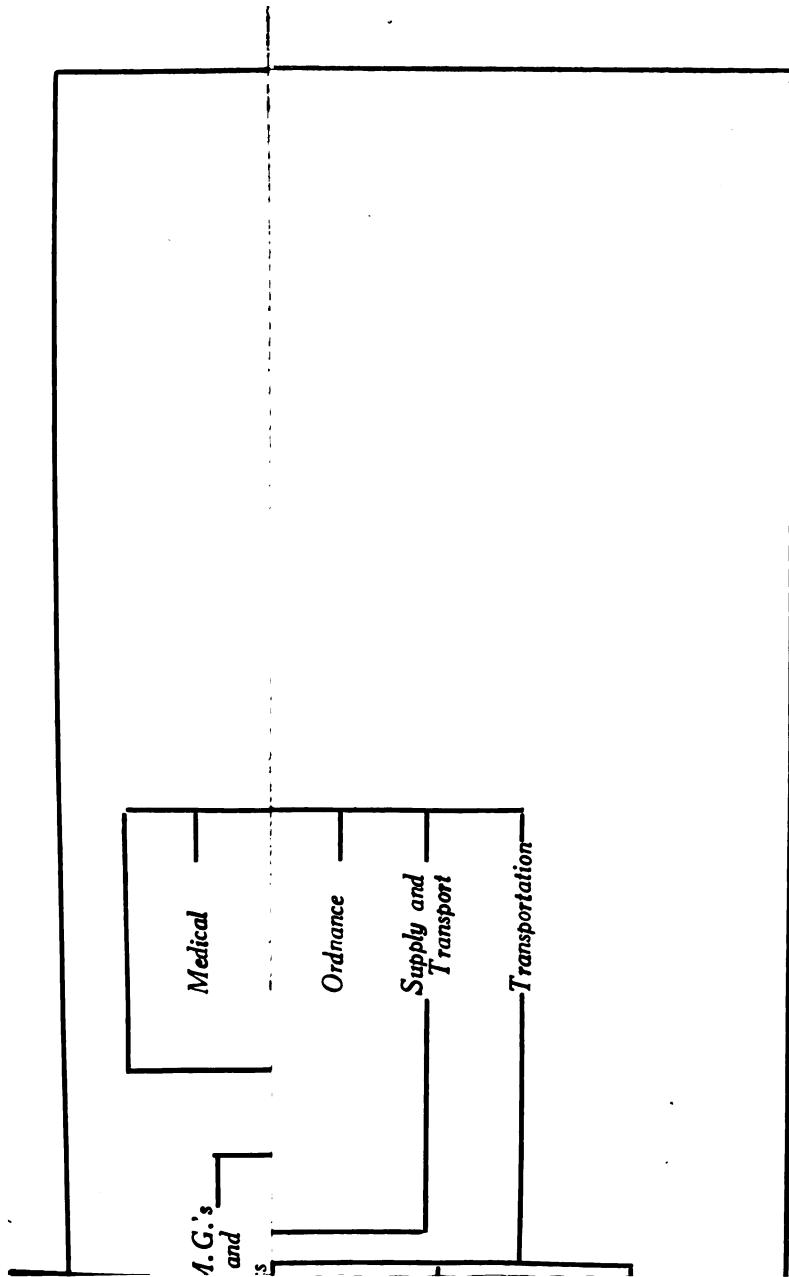
At any one time in our hospitals in France one would find about 50,000 to 60,000 patients rising in time of battle to about 100,000. In a quiet month some 8,000 wounded would go to hospitals, but in battle months the numbers would rise to some 80,000, our worst figure July 1916 being over 130,000. During the first months of the war we had few good ambulance trains, but later on the arrangements were quite good and if you got a nice "blighty" wound in the morning you might find yourself comfortably installed at Carlton Terrace or some other nice hospital next day admiring the Park and enjoying yourself.

I have given you some idea of what fell on the Administrative services that had to maintain a force consisting of 5 Armies of 63 Divisions and 3 Cavalry Divisions, 6 Brigades of Tanks and an Army R. A. F. Formation and an Independent R. A. F. Formation.

(1) I trust I have made clear what a large amount of Army work is really administrative work that if we ever do go to war our efforts must not only be directed to beating the enemy in battle but also to upsetting his administrative arrangements and that is best done apart from any direct action by bombs, shells, etc., by an economic blockade which will deprive him of the munitions and supplies of war, I am sure if we had bought up the surplus produce of neutrals near the central powers and prevented neutrals getting more imports than they usually did before the war that the central powers would have given in sooner. You may hardly credit it but with our loose control, Britain herself was importing in 1915 ten to twenty times as much into Sweden and Norway as before the war. Most of this of course went to Germany. On the other hand I know it is very difficult for

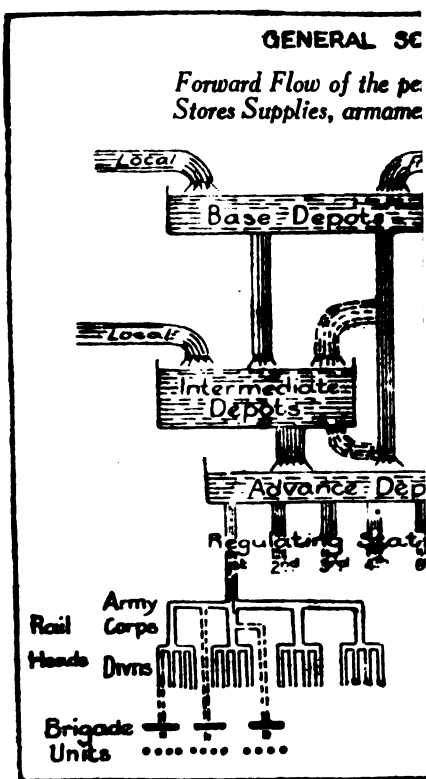
the statesmen to do all that the military man would desire. For instance the latter fumed when cotton was going to Germany through Sweden and was turned into explosives against him. On the other hand the statesman had to consider that if cotton was stopped, the Southern States, President Wilson's staunchest supporters, would be embittered against us. America might stop sending us the ammunition she was doing and might not have come in our side as she eventually did. And then, after all the bother, when cotton was stopped eventually the Germans found a substitute.

Finally, I would draw your attention to our expenditure. In this last Great War our total expenditure not only in France but everywhere came to about £ 8,742,000,000, our Army Expenditure rose from £ 28,366,102-6-5 in the year before the war to £ 824,759,300-4-1 in the last year, and the average daily expenditure was anything between 6 to 7½ millions. Practically the whole of that money is dealt with by the Administrative Services. So I trust that if ever there should be another war you will think not only of the fighting man but also of the administrative man not only that he will spend the money wisely, which will come out of you in taxes, but also that he is doing work on which depends to a large extent whether our arms shall be successful in battle.



GENERAL SC

*Forward Flow of the pe
Stores Supplies, armame*



CORRESPONDENCE.

Training of the Auxiliary Force (India).

DEAR SIR,

May I be given space to thank "Dogshooter" for his comments on my article, "An aspect of the Training of the Auxiliary Force (India)" and to regret that his partial support of my argument is somewhat grudgingly given.

But he evidently believes, like myself, that the A. F. (I.) exists solely for internal security duties, and supports his opinion with an infusion of the well-known "legal aspect" of the question, and by detailing some of the work which such duties involve, and also lends a superior tone to the discussion by the introduction of a few choice phrases like "authority of the Crown."

I incline to military history myself, but it is curious to find examples of what happened in the Mutiny in 1857 being adduced by "Dogshooter" as arguments either for or against present day A. F. (I.) conditions and requirements. Surely if concrete examples of action by "Auxiliaries" are to be quoted, the useful work of the Bihar Light Horse in the Arrah Riots, the Chota Nagpur Regiment in the Mourbhanj rising, the Nilgiri-Malabar Battalion in the Moglah Rebellion, and the Calcutta Scottish in the last Calcutta riots, would better serve as a few out of many "modern instances" which come readily to mind, but none of which confound my contentions.

Does "Dogshooter" *really* read my reference to practising the military use of the local "Ford" cars (a miniature "mechanized brigade!") when carrying out tactical schemes, to mean that I advocate that A. F. (I.) troops should not be taught how to march in "column of route," or use their arms efficiently? If so, "Dogshooter" has completely missed the gist of my argument, as well as quoted incompletely parts of same. (I assure him a charge of Ford cars manned by A. F. (I.) soldiers, armed with soda water bottles, was *not* visualized by me!) I did not even hint that the essentials of military training should be omitted, or that there should be any running without walking, but suggested that the prescribed "*special work* likely to fall to them" (T. & M. Regulations, 1923, page 10), should be in increasing quantity

introduced and interwoven into A. F. (I.) training, to the exclusion of the more advanced polish, and never likely to be required "ultra military" part of training which, particularly since the war, has, I contend, increasingly crept in, although it was proved in the case of the Indian Defence Force, to be of no practical use to an auxiliary force under Indian requirements.

As to whether modern conditions, political and otherwise,—would ever call for or permit the "collective fire action of troops" against "gangs of rebels," or the charging by Light Horse of "undisciplined gatherings of rebellious peasantry," which "Dogshooter" recommends and anticipates as possibilities for the A. F. (I.),—well, let the incidents since 1857 bear witness. Space permits me to say no more than that "It simply is not done!" (Compare the means by which our regular troops in China dealt with large well armed mobs.)

But I fear that so long as we find A. F. (I.) officers with the outlook of "Dogshooter" ready to advise and confirm the regular soldier (who all the time is striving to do his best for the Auxiliary Force, which is so unlike anything he has ever met before) and the war veteran in the inclination (which on the surface appears quite natural) towards the emulation of Regular training in its entirety as the beginning and end of all A. F. (I.) training programmes, and so absorb the few hours available, so long will any attempt to provoke a useful argument (which often means progress) prove abortive, and the old conditions will persist and probably grow more accentuated.

As an A. F. (I.) officer, I refrained from irrelevant praise of the A. F. (I.) but not to be outdone by a brother A. F. (I.) officer, I modestly but heartily endorse the "chit" given by "Dogshooter" as to the "keenness and intelligence and considerable skill" of all ranks of the A. F. (I.). I have always believed in my brief 27 years' "dog-shooting" that those qualities were proverbial in "volunteers," and am glad to find that I am in agreement with one who includes events in the Mutiny in his envisagement of present day "actions and reactions."

Yours faithfully,

D. S. MACKAY,

COLONEL, A. F. (I.).

Training of the Auxiliary Force (India.)

SIR,

I am glad to see from Colonel Mackay's letter of August 19th that in the main we are agreed about the methods of training most suitable for the Auxiliary Force. His reference to the superior tone lent to the discussion by the introduction of high-sounding phrases such as "the authority of the Crown" is very gratifying.

Colonel Mackay's knowledge of the military history of the Auxiliary Force is greater than mine. I humbly confess that I am ignorant of the action of the Bihar Light Horse in the Arrah riots and of the Chota Nagpur Regiment in the Mourbhanj rising. Perhaps Colonel Mackay could find time to give in the pages of your Journal an account of the action of these very efficient corps; I am sure that such an account would be of great interest to all ranks of the Auxiliary Force and would give concrete examples of the sort of work that may fall to the lot of the Force. I did know that the Calcutta Scottish had been employed in the recent Calcutta riots, where incidentally they were not the only A. F. (I.) pebbles on that beach, and that some of the Nilgiri-Malabar Battalion had been engaged at the time of the Moplah rebellion and had earned the praise of the G. O. C. but I knew no details. I thought that the exploits of the Lucknow, Allahabad, Gorakhpur, Bihar, Peshawar and Meerut Light Horse units in the Mutiny (not that I myself was present) would give better known instance of what I was trying to bring out, that the predecessors of the Auxiliary Force did have to act in the open country and so may the Auxiliary Force in the future if civil disobedience assumes serious dimensions.

I am sorry if I misread Colonel Mackay's arguments but really I think I had some excuse; may I quote from his article?

"It does not need much imagination to say that when an Auxiliary Force detachment is required to do a job of work, it will not move as a company or platoon of regular infantry on the march."

"Is collective field firing, as generally carried out, ever likely to be put into use by the Auxiliary Force."

"May one enquire what these Auxiliary Force infantry in the attack propose to attack in diamond or arrowhead formations?"

"Perhaps the infantry in the attack and the Light Horse in the charge is being rather overdone in some cases."

He also refers rather scornfully to the instruction of the men of the Indian Defence Force in the use of the bayonet. It reads rather as if Colonel Mackay thought that the time was wasted which was spent on learning these jobs, while I tried to maintain that this instruction might prove to have been useful.

However the main point is that Colonel Mackay and the ultra-military Dogshooter are in agreement that the Auxiliary Force soldier should learn to use his weapons effectively both individually and collectively, to carry out simple tactical exercises and then should not waste too much time on spit and polish, though spit and polish is a considerable factor in fostering self-respect and pride of regiment, but should practise with his proverbial volunteer keenness, intelligence and skill the special duties he may be called on to perform in time of emergency.

Let us shake hands.

Yours faithfully,
DOGSHOOTER.

REVIEWS.

**THE OFFICIAL HISTORY OF THE MESOPOTAMIA CAMPAIGN,
1914-18—Vol. IV.**

BY BRIGADIER-GENERAL F. J. MOBERLY.

(H. M. Stationery Office, London, 1927), 15s.

This is the last, and may possibly be regarded as the best, of the volumes of this History. General Moberly and his colleagues deserve the thanks of students of military history for their work, and it is with no desire to detract from the credit which is justly theirs that we commence this review with a criticism.

History can never be free from controversy : indeed, it is only after years of controversy that an approach is made to historical truth. Historians writing soon after the events which they chronicle cannot hope to be more than generally accurate as to their facts. As to their interpretation of the facts, they can rest assured that later, and therefore more dispassionate, writers will approach nearer to the truth. Later writers, too, will have the advantage of writing for a generation which has a less personal interest in the happenings recorded. It may be cold comfort to the actors, but we believe that the eventual verdict of history is just.

The history of the Mesopotamian campaign contains many military problems round which controversy may profitably rage. The more ardent the discussion, the more the profit to the student, and we need not regret the heat caused by it. It contains, however, one great controversy which it would have been better to have excluded from the first attempt at a comprehensive account of the campaign, the more so as that account purports to be an official one. The Report of the Mesopotamia Commission may or may not have been just. Its publication at a certain juncture may or may not have been wise. What seems to us to be quite clear is that an official history is not the place to attempt to reverse the judgment passed by the Commission. It is a matter for regret that the attempt should have been made, especially as it fails to carry conviction. In this, as in earlier volumes, the student will be on his guard against the Author's conscious or unconscious tendency towards propaganda.

The period dealt with is from May 1917 to the Armistice, and the story is admirably sub-divided so that each chapter deals with a complete phase of the operations. General Moberly has overcome that

most difficult of problems in the writing of history : the weaving into a connected whole of the narratives of widely separated events. A valuable feature is the careful exposition of how the various commanders appreciated the situations with which they were faced. The frequently neglected "courses open to the enemy" receive due consideration at each stage, and use is made of enemy accounts to elucidate events. In particular, there is a clear account of the "Yilderim" project. The effect of the Russian collapse is fully explained, as is also that of the man-power problem. The Indian aspect of the latter is a little tinged with partiality, but not so the Author's appreciation of the effect of the political situation generally on the defence of India.

In his accounts of operations, General Moberly sets an example of clarity. In these, he shows no tendency towards propaganda. Facts are stated and criticisms advanced with admirable impartiality. Without being rhetorical, he avoids cold narrative. As might be expected, the doings of the "Dunsterforce" and the final advance up the Tigris are the most interesting parts of the volume. A detailed description of the administrative difficulties of these and other operations adds much to the value of the accounts.

More details of the work of small units would have been of assistance to the student of the modern text-books which are intended to teach open warfare. As an account of open warfare under modern conditions, the book is already of very great value. It will, of course, be a text-book for examinations, but we would recommend it to a wider circle of military readers. The maps, sketches and photographs are excellent.

THE WORLD CRISIS, 1916-18.

PART I.

By THE RT. HON. WINSTON S. CHURCHILL, C. H., M. P.

(*Thornton Butterworth, Ltd., London, 1927*). 42s. nett.

The vivid style and the art of expression of the author place this book in a different category from the ordinary historical and biographical account of the Great War. It grips the reader from the start and, apart from its intense interest, is quite as thrilling to read as many a good novel

Especially is it interesting to compare the views expressed in it with those in "Soldiers and Statesman," Sir William Robertson's latest book. The opinions of that great soldier and those of the celebrated author of the book under review are so divergent on some of the major points of strategy and conduct of the war, and both are so ably expressed that, after reading both books, one still hesitates to adjudicate between the two different courses.

Sir William Robertson held throughout that the only course for the Allies to pursue was to concentrate on the western front and to forgo all "side-shows." He attributes the, almost decisive, break through of the Germans in their great offensive of March 1918 to the fact that essential re-inforcements and reserves for our armies in France had been used up in the secondary theatres.

Mr. Winston Churchill, on the other hand, considers that the vast offensives in France, in the face of continuous lines of trenches, barbed wire and machine guns, was a useless waste of life and that we should have contained the Germans on the Western front with the fewest numbers possible while we exploited "soft spots" in other parts of the world. He maintains that the battle of the Somme, and the French and British offensives in France in 1917, almost lost us the war, when, by waiting until the Americans were ready, we should have made certain of victory at smaller cost and with much less risk.

The book is characterised throughout by its plain spokenness and its fairness.

The leading figures, sailors, soldiers and statesmen who held the stage are made to stand out very vividly as the author sees them and as he sums them up. Some of his conclusions are unusual—especially the low opinion he holds of the capabilities and the conduct of the war of Marshal Joffre.

The chapter on the battle of Jutland is naturally of exceptional interest and the salient points and critical decisions of the battle are very clearly put.

The book contains several excellent maps and diagrams and is a very valuable contribution to the history of the Great War.

THE WORLD CRISIS, 1916-18.

PART II.

BY THE RT. HON. WINSTON S. CHURCHILL, C. H., M. P.

(Thornton Butterworth Ltd., London, 1927). 42 s. nett.

This volume deals with the authors period of office in the most important post of Minister of Munitions and with the late periods of the war.

The most interesting chapter in the book is that on "The Unfought Campaign," discussing our plans for the great offensive in 1919, had the war not ended unexpectedly in 1918. Naturally the Ministry of Munitions was vitally concerned with these plans and Mr. Churchill with great foresight had impressed on all concerned the importance of thinking well ahead so that all that would be required could be produced in time. It is most interesting to note that we had determined to concentrate on an overwhelming superiority in gas and tanks and to construct a large number of cross-country track vehicles.

The vivid description given by the author of the Battle of Noyon, 1918, is illustrative of the bludgeoning methods to which all combatants on the Western front had perforce descended by this period of the war. One must almost have doubted whether the words "art" and "science" as applied to war had not become misnomers. A mass of artillery backed up by a corresponding weight of infantry, were massed as secretly as possible, against one portion of the front and then, on the given date, the attack smashed its way through, up to the limit of the prearranged artillery preparation, and then petered out; of any form of manœuvres or finesse there was none.

This volume is quite up to the high standard of the previous one and is the most interesting, and one of the most valuable, accounts of the Great War that has been written.

THE STUDY OF WAR FOR STATESMAN AND CITIZENS.

BY MAJOR-GENERAL SIR GEORGE ASTON.

(Messrs. Longmans Green & Co., Ltd., London 1927). 10s. 6d.

Lord Grey of Fallodon mentions in his introductory address. three aspects from which the study of war may be considered: as part of the training of the soldier; as part of the education of the

statesman ; and as part of the training of the average citizen, so as to obtain an informed public opinion.

Most of the lectures embodied in this book were arranged by the Military Education Committee of the University of London. It is satisfactory to learn that they were attended by large and representative public audiences. There are altogether nine lectures, and the lecturers include Sir Charles Oman, Admiral Sir H. W. Richmond, Major-General Sir E. Ironside, Air Vice-Marshal Brooke-Popham, Brigadier-General Hartley, and Mr. G. F. Bridge.

In his own contribution, Sir George Aston examines the attitude of anti-militarists towards the course of lectures, using Lord Grey's apophthegm that a militarist is one who is incapable of taking account of the soul which exists in nations. Sir George maintains, as a consequence, that the best anti-militarists are those who are best acquainted with the realities of war. War belongs to the province of social life—not to the arts or to the sciences.

Sir Charles Oman attacks the school of writers who would eliminate from their works all reference to war, all "record of the butchery of men by their fellow men." He traces "several separate strands of prejudice in the mentality of those who discredit military history." Among these are : reaction against a too luridly militarist exposition of events ; extreme democracy, which would put all war down as due to the ambitions of kings and rulers ; and the theory of the evolutionary development of mankind, which he himself does not credit. He looks on war as "merely the greatest of the influences which make history cataclysmic," placing it among phenomena such as plagues and earthquakes. He shows how often it is that just one man makes history.

It is so seldom that the soldier, who must be very little less of an amateur in naval matters than the civilian, can find a really lucid exposition of the problems of naval warfare, that Admiral Richmond's lecture will be of special value. He touches on the problem of the capital ship ; trade protection and commerce destruction ; the submarine ; the influence of the air on naval defence ; the defence of outlying possessions ; and the value and uses of over-seas bases—all useful subjects to the student.

Sir E. Ironside necessarily deals with subjects with which most serving soldiers are familiar. He shows that the next great war will

see a short period of intense air warfare. Any long period of static warfare is most unlikely, owing to mechanization, which, in turn, will lead to smaller armies of the professional type. He deals with the small war against a moderately well equipped enemy, in countries which do not favour mechanized forces.

It is interesting to compare the views of Air Vice-Marshal Brooke-Popham on the rôle of the air forces in the next war with those of other lecturers. We will only remark that he bases his views chiefly on intelligent anticipation—we refrain from using the word prophecy—while the others base theirs chiefly on the study of history. Still, we cannot afford to dismiss his theories on these grounds. There is too much at stake for conservatism to be worth while.

Gas can be cruel: it can also be humane. General Hartley believes it unsound to depend too much on conventions which prohibit its use. He maintains that “if we have war, we shall have gas,” and he urges us to prepare accordingly. If for no other reason than that a little understood danger is bad for morale, every army must be trained in gas warfare.

Mr. Bridge’s paper on “what should we teach about War?” proves that “in this tangled world there is no such thing as a simple answer to any question”. He shows how difficult it is to maintain that war is a crime. Each side fights for the right as it sees the right. Wars fought in the right spirit are “among the glories of our race.” The paper is a useful corrective to certain popular theories, though no attempt is made to glorify war.

Altogether a volume worth reading.

LAND, SEA AND AIR.

BY ADMIRAL MARK KERR.

(Messrs. Longmans Green & Co., Ltd., London 1927). 18s. 6d.

This volume adds one more to the ever growing list of personal memoirs by distinguished soldiers and sailors; it is rather refreshing in that it raises no controversies about the Great War, but is rather the tale of a varied and long career in many parts of the world and in many types of ships.

Perhaps the most interesting parts of the book are the personal encounters which the author had with many of the outstanding

figures in European history, among whom may be mentioned King Constantine of Greece and the German Emperor. The author has many breezy and amusing stories to tell of these meetings, as indeed about many episodes in his varied career, and they give us interesting sidelights on the characters of the people concerned. To us, those about the German Emperor are perhaps the most illuminating.

The book opens when the author was aged 12 and having just left the *Britannia*, had been appointed to H. M. S. *Newcastle*, the last wooden frigate that was to be commissioned in the Royal Navy. We are lead on from here through the various promotions, changes of command and station until the author is promoted to captain and appointed naval attache to no fewer than 4 countries—Italy, Austria, Turkey and Greece with headquarters at Rome. This seems to have been an appointment after the author's own heart and he has many amusing stories of the old regime in Turkey.

He served for some time directly under H. S. H. Prince Louis of Battenberg, and pays a fine tribute to this very great officer. There is no doubt but that the navy and the country as a whole owe a big debt of gratitude to the gallant admiral, a debt that was very ill repaid.

The next appointment of interest that Admiral Mark Kerr held was Commander-in-chief of the Royal Hellenic Navy, which post he assumed in 1913 and held well on into the war. He is a staunch supporter of King Constantine, whom he says was consistently loyal to the allied cause, under great difficulties and was finally driven out by ill-informed criticism.

Admiral Mark Kerr was later appointed to command the British Naval forces in the Adriatic and subsequently, on the formation of the Royal Air Force, was brought into that service to help in the task of creating a new service in the welter of a world war. The author had always been very keen on flying and was himself a pilot of long standing, so the choice was not surprising.

After the war the author went over to Newfoundland with the idea of attempting to fly the Atlantic, in a giant Handley-Page; for various reasons the attempt was not made and instead he made a flying tour in the United States.

The book ends, as so many do, with reminiscences of the Stage and the Turf. Incidentally the gallant Admiral was no mean jockey

himself, and seems to have had a really remarkable amateur career on the turf.

A very readable book by a versatile sailor, who combines with a sense of humour a ready pen, and we commend it to all whose taste in reading lies in the direction of memoirs.

THE ORIGIN OF THE NEXT WAR.

BY JOHN BAKELESS.

Written by an American with an extraordinarily clear grasp of geographical and political conditions. The author's object is to point out that "the war to end war" failed and that forces identical with those which caused the last World War, are at work to-day preparing the way for the next. Mr. Bakeless argues that the increase of world population is causing, as it has in the past, nations to look for room to expand. That the limited size of the planet on which we live inevitably causes collision between rival nations looking for room for surplus nationals, for food stuffs and raw materials due to the rise of industrialism, and for exclusive markets. These are the fundamental causes of wars however much they may be camouflaged by high sounding diplomatic phrases.

Having acquired markets, a nation naturally needs trade routes and the means of protecting these routes. The protection of trade routes, if they be maritime, involves the possession of an armed navy and the possession of a navy means naval bases. Again, as no nation can hope to be able to protect its trade routes by the establishment of bases exclusively in its own territory, it becomes necessary to acquire bases in foreign territory. Hence "Irredentist" problems immediately arise. The author instances as examples of this condition, "the British Base at Malta, an offence to Italian Nationalists, the Italian Base in the Dodecanese, an affront to patriotic Greeks; the Japanese Base on foreign soil at Port Arthur" and the American Base at Fonseca Bay in Nicaragua. Gibraltar and Tangier are also cases in point. Another fruitful breeder of future war is the international scramble for oil.

Having enumerated these fundamental principles, the author proceeds to give further examples of each. As for instance, questions of population between the U. S. A. and Japan. or as in Italy with her longing eye on the French colony of Tunis, which though French in name is largely populated by Italians and which, as a glance at the

map will show is an obvious and ideal line of expansion for Italy's imperialism. Questions of waterways, as at Constantinople, the Suez Canal, the Panama Canal and the Mediterranean. Questions of defending waterways, such as at Guam, the Phillipines, Singapore, Malta or the Dodecanese Islands, where Italy hopes to build a naval base in those eastern Mediterranean waters she would like to make her own. A whole chapter is devoted to the Mediterranean and its vital importance to the British line of communications to the East. He also points out that were we to leave Gibraltar, the warships of at least three naval powers could slip along neutral coasts to within easy raiding distance of the British Isles in neutral waters and perfect security all the way.

There is some very interesting matter on the subject of France. France with her small population and her reliance on African troops to make up her fighting strength. To ensure this she must have security of communication between Marseilles and the North African ports of Oran and Bizerta. This "strategic triangle" is threatened on one side by Gibraltar, on the other by Malta and is traversed by the British route to the East. "It is only natural that the British should be uneasy at the French plan to build a fleet of submarines, ostensibly to defend their strategic triangle but quite capable at any time of taking the offensive and cutting the vital British line of communication."

Then there is Italy. The author quotes an Italian senator, who said at the Williamstown Conference in 1925, "Unlike any other great Mediterranean Power, Italy is stretched like a bridge in the very centre of that sea; its waters bathe all her coasts. Not only her liberty but her very life, depend on the goodwill of those who hold the keys of Gibraltar and Suez, of those who have installed themselves for Imperial, not national needs, in Malta and Cyprus. More than forty-one million Italians could be starved in a few weeks if those who hold the gateways of the Mediterranean were suddenly to decide on hostilities and close those gates to the import of grain, coal, fuel, oils and iron; of all the raw materials, in short, essential to the life of a modern civilised nation. Italy is to-day the gravest problem of the Mediterranean. It is not imperialism, nor national egotism, so easily to be noted in other and richer nations, enjoying greater geographical and strategical security than Italy, which guide the acts and aspirations of the Italian Government and people; it is urgent

necessity, growing every day more urgent, to ensure to the nation tranquillity in its political and economic life, freedom of movement and outlets suited to the needs of its ever expanding population and industries. By studying this problem in time and in the light of present political realities, *it may be possible to find a peaceable solution.*"

Turkey, Russia and the Suez Canal situations are also discussed with knowledge and clarity, as well as the factors of "Access to the Sea," "Irridentism" and the Pacific.

Mr. Bakeless also discusses at some length the many portents and warnings which from 1900 onwards, preceded the first World War and points out some disquieting similarities which seem to be preparing us for the next, which he considers will be upon us possibly within forty, probably within twenty years.

The penultimate chapter discusses the probable weapons with which the next World War will be waged, and it will be no surprise to military students that he gives first place to gas and mechanisation.

The book finishes on a note of pessimism, the author holding that although the way to avoid future war is perfectly clear, yet human nature being what it is, war is inevitable.

The book is well worth reading by all military students.

THE ARMIES OF THE FIRST FRENCH REPUBLIC AND THE RISE OF THE MARSHALS OF NAPOLEON I. THE ARMÉE DU NORD.

BY THE LATE COLONEL RAMSAY WESTON PHIPPS, FORMERLY OF
THE ROYAL ARTILLERY.

(Oxford University Press, London, Humphry Milford, 1926.) 18s.

The author devoted the leisure of his life to the study of the Napoleonic period, and collected more than 2,000 volumes of books and maps relative to the period. From his original interest in the ministers of the Empire he came to study the careers of the marshals. He planned to publish their individual lives, but was confronted with the problem of how to avoid duplication in recounting the same campaign for the different characters. Finally he wrote an introduction and summarised the histories of the armies of the Republic and the Consulate, pausing from time to time to show the future marshals at various stages of their careers. In addition he had

compiled detailed histories of certain campaigns and the lives of the marshals.

The volume under review, published posthumously by the author's son, contains the introduction and the history of the *Armée du Nord*. It deals with the humanities rather than with the science of war, and is as valuable for the political as for the military student of Napoleonic times. We are given an idea of the winnowing that took place in the armies before Napoleon came to command them, and of the schools of war in which his future army commanders learnt their trade.

The introduction describes the transformation of the Army of the Monarchy into that of the Republic; the *amalgame* of regulars and volunteers; and classifies the future marshals. The story of the transformation affords an interesting comparison with recent happenings in Russia. The reconstruction was really a reversion to the old system.

"The successful armies of the Republic were produced not by the invention of a new organization, but by a reversion to the old system, till finally an officer of the regulars became First Consul and trundled all the revolutionary nonsense into the dust bin."

Cavalry lost somewhat in importance, whilst the artillery, especially under Napoleon, gained. There were no tactical developments, "the formations to which the regulars and volunteers of 1791 were trained were the column for movement and the line for fire." The men served for long periods of war, no discharges being made until the Peace of Amiens, and then, "when men of 10 years' service were discharged, a good many re-enlisted, getting higher pay and bearing a chevron as badge on their left arms." Was this the origin of the service chevron worn during the Great War?

The marshals fall into three classes: the officer class, the soldier class, and the civilian class.

"We have amongst the future marshals nine who were officers of the old army, with the ordinary knowledge, traditions, and prejudices of their respective ranks and arms.....Another ten had served in the ranks, and possessed considerable experience, training, and discipline.....Only six at most.....were mere civilians without any military knowledge."

The history of the *Armée du Nord* includes the campaigns of Valmy, Jemappes, Wattignies, Tourcoing, and the conquest of Belgium and Holland. These are not primarily strategical or tactical

studies. They are a valuable commentary on the difficulties of soldiers who were under the control of political revolutionaries. But apart from those who were removed by the guillotine, even if we allow that a few gained promotion because they were favoured, or because they were *arrivistes*, or because they concentrated on service on the staff, there was on the whole a ruthless elimination of the unfit under the acid test of war; and although the experience gained in this particular army was not of the best, we can realise that Napoleon was served by a body of officers who had acquired a useful knowledge of active service.

THE HISTORY OF THE 2/6TH LANCASHIRE FUSILIERS.

BY CAPTAIN C. H. POTTER, M. C.,

AND

CAPTAIN A. S. C. FOTHERGILL.

In their unusually vivid description of the life of this second line territorial battalion the authors have produced an entirely new style in regimental histories which are so frequently a plain unadorned record of events, commanding but of limited interest outside an immediate circle of readers; the Regiment.

The history of the 2/6th Lancashire Fusiliers is not only of valuable historical interest; it is also a human, and compelling story of regimental life in those momentous years of the life of the British nation.

This history extends over the period 1914 to 1919, and the 2/6th Lancashire Fusiliers was amalgamated successively during this period with the 1/6th and the 12th Battalion of the same Regiment. Interest is aroused at the start by the illuminating forewords by General Sir H. A. Lawrence who, as everyone knows, was Chief of the General Staff, B. E. F., and at one time commanded the 66th Division of which this battalion formed part, General Sir Hubert Gough who has something to say about what he terms the great St. Quentin Battle of March 1918, General Sir A. Godley in whose Army Corps the 66th Division was included, and Major General Neill Malcolm who took over command of this Division from General Lawrence in December 1917.

The appeal which this history will make to everyone who reads it is well summed up by General Lawrence says "Official histories

of the conditions which determined the policy of Government or higher Commands have their special interest, but this book will appeal to every section of the community”.

It is interesting also to quote extracts from General Gough's foreword about the retreat of the 5th Army in March 1918.

“The share which was taken by the 2/6th Lancashire Fusiliers in this drama is fully described in the following pages.

Their story should dispose of the tales once so freely bruited abroad that the 5th Army gave way before that Great German attack in an inexplicable, if not, in a disgraceful manner.”

“Rear guard actions against overwhelming odds and on an enormous front are in the nature of things extremely difficult operations, and I can only say that it would not be easy to find an example in history of a rear guard conducted under such conditions which was carried out with the steadfastness and sound initiative displayed by the troops of the 5th Army in March 1918.”

After reading this history few will be able to criticise these statements, if indeed conviction was required before.

In the preface there is one statement in which as General Godley points out we must join issue with the authors.

Their assumption that the duration of the war was insufficiently long to transform them into ‘*pukka* soldiers’ is unconvincing to all those who served in the later years of the Great War. If a territorial battalion like the 2/6th Lancashire Fusiliers were not soldiers then most of the senior regular soldiers during their experience have not learnt what a soldier is.

Chapter I describes the birth of the battalion on September 24th 1914 and the start of training at Southport. The well known deficiency of clothing and equipment is well brought out by the remark “The rank and file were for a long time in civilian clothes and clogs were the favourite footwear”.

Chapter II details the battalion's experiences at Crowborough and Colchester where it first of all found drafts for the 42nd Division who had suffered heavy casualties at Gallipoli, and later formed part of the 66th Division part of the Central Force defending the East coast.

A passage on taking over billets is worth quoting. “How is it that every unit that leaves a place swears it is left clean and every incoming unit swears that it was found dirty”.

Chapter III starts with the departure of the battalion for France on February 26th 1917 and their time at Festubert.

It is unnecessary to comment further on the history of the battalion during its time of trial in France and Belgium, but the characteristic spirit of the British soldier in making light of difficulties, unpleasantness, discomfort and when "they are up against it" is brought out in every chapter of the book.

The authors certainly live well up to their dictum that the history is not intended to be a mere chronicle of the doings and wanderings of the battalion. But that war has its lighter as well as its serious side.

The last chapter deals with demobilization and after.

In the final words of the preface the authors say "To the end we remained more or less what we were when we started, a body of indignant civilians who heard the call in 1914 and felt compelled to take up arms to defend our country".

After reading the story of the patient endurance, of incredible hardship, of the heroic courage, and the steadfast will to win which animated these men from Lancashire for the future of their people, we hope and feel sure that the spirit which animated this indignant body of civilians may in the time of Britain's need again compel them to take up arms, and perform the same heroic deeds which have been so modestly described in the history of the 2/6th Lancashire Fusiliers.

JOURNAL OF THE SOCIETY OF ARMY HISTORICAL RESEARCH, VOL. VI, APRIL 1927.

HON. EDITOR : LIEUT.-COLONEL J. H. LESLIE.

(*Sir W. C. Leng & Co. Ltd., Sheffield*) 6s.

This number is particularly interesting both in its articles and in its Notes, Questions and Replies.

Of the articles, the first instalment of "A Treatise on the Art of War," by Thomas Audley, who was Provost of Guisnes under Henry VIII and later Lieutenant of the lower Town of Boulogne-circa, 1543-4, shows that the principles of war were not unknown to thoughtful soldiers of those days.

The treatise was written for King Edward VI. It begins with a dissertation on the necessity for a proper proportion of arms :

“Suerlye as I thinke in myne opinion the division of weapons and placing of them is the chief strength of all Battailes both on horsebak and on foot for if you have to many of one kynd of weapon and to few of one other kynde of weapone when you shall come to the setting of the battaile you shall fynde a great weakness by reason thereof”.

Audley held strong views on training :

“But as men be trayned nowe Theye may goe iii or v years in the warres and in the ende never the wyser. And what is the cause ? Manye because his capitaine is as Ignorant as he And was made a Capitaine before he was a souldier.....And I wyshe also that captaines would be as ready to take paynes to traine their men as thei be readie at the paie daie to take paynes to tell mony, for it is a grevouse payne to sett a Battaill with untrayned men.”

In the matter of supplies he forestalled Napoleon :

“And above all thynges Provision ys chiefly to be foresene, for all things may be better suffered than hunger, for hunger overcome the without strooke of the enemyes”.

Medical and spiritual needs are not overlooked :

“I woulde wishe that there were of everie twoo thousand men a phisicean to minstre medicines to the sick and to everie bande a singlar, and also to everie ii thousand men I would wishe there were a Preacher to minstre medicines for the soull.”

As may be expected the detail of provost arrangements is fairly complete. The rate of marching was astonishingly slow :

“....the common distance of the waie that old warriors were wount to Lead there army in a somers daie was v miles in iii hourse. So the Armye should come to lodging to provide forage and other his necessities at a convenyente tyme”.

From camps and bivouacs Audley is led to discourse on protection :

“.....alwayes at the first arrival to a campe give in commandement to the Bandes of horsemen of everie warde that no man dismount from his horse until such time as all the footemen be quietly lodged and that alwaies at suche tymes good and sure scoutes be put forthe towards the enemye, for upon those scoutes at such tyme depends the wealthe (well-being) of anye Campe, for when footemen be making their lodging, then be thei out of order and strengthe”.

And again of advanced and rear guards :

“And I would all good men of warre or other marching towards their ennemies or coming from their ennemies should appoint very good and skilful Scoutes for thereupon hangeth much of there suertie”.

Finally this sage advice on the question of whether to give battle :

"Many olde and aunciente men of warr be of the opinioun that it is not good for a leader of an Army to be overhastie to give Batell to his enemyes, unless it be greatlie to his advantage for it is a thing very weightie and ought very sagelye to be foreseen".

Wellington knew this, but not so v. Falkenhayn or v. Sanders in Palestine. Our author then expounds the factors to be considered in appreciating a situation, which are not greatly diverse from those enumerated in our T. & M. Regs. We await the next instalment with interest.

The text of the Ordnance of the Charter of the Company for Gun-makers, London, makes one wish for a revival of the old craft guilds to save us from "Bad and unmerchantable guns" or from "Guns made of ill materials".

The following quaint passage occurs in Charles Hamilton's letter to his aunt after the battle of Fontenoy :

"I was forced to be very civil and make a great many bows to ye. balls, for they were very near me, for both my right and my Left hand men were killed, and all round me there were men and horses tumbling about, but thank God none touched me".

Major Scobie has contributed an interesting account of "The Caithness Fencibles" who wore the *truis* ("i.e., similar to trunk hose, but made of tartan cut on the bias, with feet and legs in one—not the garment now known by that name in Scotch regiments, which are simply tartan trousers"), because the Colonel considered that it was an older dress than the kilt.

Captain Liddell Hart's "A greater than Napoleon-Scipio Africanus" is summarised in a review which concludes trenchantly as follows: "Lastly, a word as to the title of the book. Scipio was perhaps the noblest Roman known to history, but was he greater than Napoleon?.....in the present writer's opinion such a comparison is rendered futile by the 2,000 years' gap."

The Notes, Questions and Replies are, by no means, devoid of humour as witness the following note on a regimental inspection in 1599 :

"Within a short time after the Earle of Essex arrived at Dublin with the Gallantree of England, and hearing much in praise of Sr. Arthur Chichester, and perfection of his Regiment, made a journey purposely with his Gallants to see them, and Sr. Arthur having drawn his Regiment up in a fayre field and exercised them perfectly (at which he was excellent) they being in close order, the Earle thinking to put a sally on them by breaking thorow them, charged at them with his Galant Cavallrie, but the Collonell (not being used to receive

foyles) had so ordered his Pikes as they forc't the Earle to a carry coale (caracole) and upon his wheele a saucie fellow with his Pike prick't his Lordsp. (saveing yr. reverence) in the arse, and made him bleed ; so, he haveing enough of that smarting sport, he retreated, giving the Collonell and his Regt. high Prayse."

From these pickings it may be judged how well worth it may be to peruse the whole, or better still to become a member of the Society of Army Historical Research.

THE FIGHTING FORCES.

APRIL 1927.

This number is full of good articles not the least of which is a review by an anonymous author on that well known book, *Field Service Regulations*, Vol. II 1924. The author of this amusing skit has a vast fund of dry humour.

Like most periodicals for this quarter the *Fighting Forces* contains a long review on Mr. Winston Churchill's book "*The World Crisis*." The reviewer decries his description of the battle of Jutland as being inaccurate and biased but supports his opinions of the methods of conducting the war on land which are in direct disagreement with those of the leading soldiers.

The number contains the usual article on mechanisation from the pen of that prolific writer Colonel Fuller, who must surely have created a record in the number of articles he has contributed to current magazines recently on the subject of mechanisation and the war of the future.

MOTHER INDIA.

By

KATHERINE MAYO.

(Messrs. Jonathan Cape, London. 1927), 10s. 6d.

This is a remarkable book, written by an American lady, which has caused no small stir in India.

The authoress set out for India "to see what a volunteer unsubsidised, uncommitted and unattached, could observe of common things in daily human life." She says "Leaving untouched the realms of religion, of politics and of the arts, I would confine my inquiry to such workaday grounds as public health and its contributing factors or what forces would help or hinder a governmental effort to lower infant mortality, to better living conditions, or to raise educational levels, supposing such work to be required."

In order to accomplish her object she travelled widely all over India, "talked with health officers, both Indian and British,—visited hospitals of many sorts and localities—made long sorties in the open country from the North-West Frontier to Madras—went with English nurses into bazaars and courtyards and inner chambers—and saw as well the houses of the rich." She noted the personal habits of the various castes, looked into the management of cattle and crops and attended sittings of the various legislatures, All-India and provincial.

As a result of her travels, her investigations and her conversations with all sorts and conditions of people, she has produced an accumulation of facts and figures with regard to the inner life of India which, as she says in her conclusion "can easily be denied, but cannot be disproved or shaken." She quotes chapter and verse for nearly every important statement of fact which she makes.

Much of what she has written is well known to dwellers in India but has never been put before the general public in collected form or with such, almost embarrassing, frankness. Miss Mayo does not, however, mind plain speaking—in the first chapter she states "In shouldering this task myself, I am fully aware of the presentiments I shall incur; of the accusations of muck-raking; of injustice; of material mindedness; of lack of sympathy; of falsehood perhaps, of prurience. But the fact of having seen conditions, and their bearings, and of being in a position to present them, would seem to

deprive one of the right to indulge a personal reluctance to incur consequences."

Part one of the book is devoted to an examination of the social system of child marriage and the evil results both to the women themselves and to those among the children who survive and eventually attain to adolescence.

Part two concerns the systems of Hindu widowhood, Indian midwifery, the purdah system, and the very great difficulties of trying to educate the mass of the Indian population. In Part three, the authoress discourses on the Brahman, the untouchable, and of all the evils of starting education at the top, resulting in an annual output of university trained students for most of whom no avocations in life can possibly exist.

Part four contains a chapter on the Reforms and another on the Indian princes, and Part five discloses the task of the health officer of India in trying to stem the spread of disease in face of the almost insuperable barriers of the caste system and the general apathy of the mass of the people.

Miss Mayo has produced an unpleasant, but a remarkable book, clearly and vividly written and cleverly interspersed at intervals with little word pictures on contrasting subjects which avoid any possibility of monotony, perhaps the most attractive of these is the little description in Part five of the frontier station of Kohat as she saw it "Beds of blue violets along its streets. Beds of blue violets in gardens, for somehow your Briton will have flowers, wherever you strand him. Barbed wire entanglements girding the town. Lights every hundred paces and heavy-armed sentries... No white woman permitted outside the wire after daylight begins to fail; not because of fears, but because of things that have happened. Army officers wives they are, the few white women in Kohat; the quiet comradely sort that play the whole game to the finish."

The authoress may be accused of having supplied no constructive criticism in her book and also that some of the most unflattering things she says about India are true in part in certain sections of European life. These accusations may be true, but Miss Mayo set out to put before the people of America a description of the inner life and social problems and conditions of India as she saw them and she has done so with a frankness and a thoroughness which will ensure for her book a very wide circulation—not only in America.

THE KALI PANCHWIN.

By

THE LATE COLONEL SIR REGINALD HENNELL.

(*Messrs. John Murray. London, 1927*), 12s. nett.

Until comparatively recent years the idea was prevalent, not only amongst the general public, but amongst many regiments of the Army as well, that Northern India exercised a monopoly of the martial classes of the country. Sikh, Dogra, Pathan, Punjabi, Mussalman, and Gurkha were names with which to conjure. To the great majority the name "Mahratta" merely stirred recollections of the distant past, when the men of this race overran the greater part of India, when their horsemen were the terror of the country side, and when their armies were held in the greatest respect by every ruling Prince. It was considered something of a tragedy that their fine soldierly qualities had deteriorated to such an extent as to render it impossible for them to regain their pristine glory.

Happily these erroneous ideas concerning the Mahratta soldier were entirely dissipated in the Great War, and the readjustment of values which became necessary are clearly indicated and firmly crystallized in this book "The Kali Panchwin."

The author, the late Colonel Sir Reginald Hennell, Lieutenant of the Kings Bodyguard of the Yeoman of the Guard, and a former commanding officer of the regiment, devoted the latter years of his life to render his last service and tribute to his old Corps. That this labour of love will be deeply appreciated by those for whom it was undertaken, can be accepted without hesitation.

In simple language he unfolds the history of this old regiment, which, raised as far back as 1768 formed the solid foundation upon which was afterwards built that famous force, the Bombay Army.

The Kali Panchwin or Black Fifth—a pseudonym denoting a combination of the peculiar black leather worn on the turban and the number of the regiment—first saw active service in 1772 at the capture of Broach in a war against the Portuguese and Mahrattas. This action was only a fore runner of many subsequent campaigns in which the regiment took a most creditable, and a often brilliant part. But of the old battles of which it is most proud, and which is celebrated to this day in the regiment is Seedaseur fought in 1799. Next in

importance perhaps is the 1st Afghan War which certainly constitutes a landmark in the history of the unit, for it was in this war that the regiment's valuable services were rewarded with the distinction of being known as "Light Infantry."

Only naturally, the reputation of the regiment reaches a climax in the Great War, when the demands made upon it, and the severity of the fighting which it experienced, far surpassed anything which it had known before. The opinions and the demonstrations of respect of those who fought with it (which are described in the book) bear testimony to the fact that it came through the ordeal without a stain on its escutcheon.

With justifiable pride the author quotes Edmund Candler's tribute to the Mahratta soldier—"the Cinderella of Mesopotamia." "What was the Indian Regiment on your right?" asked a Norfolkman discussing an action. "The Mahrattas. They would not leave us up a tree," "not likely" was the appreciative reply. Such honest but simple praise from a fellow fighter is probably more treasured in the mind of a regiment than an eulogistic report in an official despatch. The Mahratta soldier has every reason to be proud of himself.

Of necessity the book must be somewhat parochial, but although it will be of greatest interest to those unit which enlist Mahrattas—in particular the 2-5th Mahratta Light Infantry—it will also be found of value to others as an example of regimental history truly and simply told.

THE FIGHTING FORCES.

JULY 1927.

The July number contains several interesting articles. The Editorial of this number is of considerable interest to readers in India and contains interesting commentaries on the Experimental Brigade at Tidworth, "The Infantry Myth," India and Mechanisation, the Report of the Skeen Committee and Travelling Concessions in India.

Anything to do with the Experimental Brigade is of interest.

THE REMAKING OF MODERN ARMIES.

By

CAPTAIN B. H. LIDDELL HART.

(Military Critic of the Daily Telegraph).

Captain Liddell Hart is well known as a military writer, and we may be sure that any book produced under his authorship will lack nothing from clearness and vivid descriptive power.

This book "The Remaking of Modern Armies", in its interest to the general reader, either soldier or civilian, is far in advance of anything which Captain Liddell Hart has given us before and should be read by every Staff College Candidate, or student of the evolution of modern warfare.

It is full of original ideas on the most talked of military problems of the moment.

"The keynote of the book is mobility—of movement, action, organisation and, not least, of thought."

Part I—Rebirth—Contains 7 chapters.

1. The Army of a Nightmare.
2. The Cure—Mobility.
3. The Dominions and Mechanisation.
4. The Rebirth of Cavalry.
5. The Mounted Infantry of the Future.
6. The Humanity of Gas.
7. The Napoleonic Fallacy.

In the first chapter the author seeks to establish the primary causes of trench-warfare in the last war and to show that exactly the same state of affairs will occur in the next war until our armies are reconstituted. He points out truly that "a survey of military history reveals that mobility has yielded to stagnation,

whenever means of defence have acquired a material preponderance over the means of offence”.

Although a very firm believer in the omnipotence of the task the author states in this opening chapter “My belief is that the year 1926 will be in history a landmark in military evolution, and the cause lies in the invention of the cross-country six wheeler.”

From the great advance which has been made in these vehicles in the very short time since their first invention there would seem to be good grounds for truth in this statement.

Captain Liddell Hart puts his case for an instant increase in mechanisation most forcibly—and there are many who will be in agreement with him—he would cease to experiment and go into construction on what we have got.

It is doubtless a true saying that “the best is the enemy of the good” but the author rather baulks the financial stringency question, which is apt to put such a damper on the ideas of the enthusiastic military reformer—can we afford to go into construction on any large scale until we are certain that we are spending money on something which will be out of date in five years?

In asserting that the strongest obstacle to rapid mechanisation “is the Cardwell System combined with the reluctance of the Indian authorities to accept any modern machines” he shows that he does not understand the attitude of the Indian authorities nor is aware of Indian conditions or of some of the obstacles which whole track vehicles must encounter, not only on the North West Frontier, but in crossing vast stretches of land and sandy desert under tropical conditions.

The conclusion to the first chapter can, however, hardly be disproved—the machine gun emerged from the last war as the dominant defensive weapon and infantry could only make headway against it with the assistance of intense artillery bombardment, gas or tanks. With our comparatively small number of guns, intense artillery bombardments, which will wipe out the machine guns of the defence, must be out of the question—at any rate in the first stages of the next war—and we must therefore rely on other methods to get our infantry forward in the face of the deadly and increasingly numerous machine guns.

The remedies suggested are the immediate conversion of "part of the infantry surplus" to mobile machine-gun units carried in six wheelers and a large increase in the number of tanks and tankettes.

The difficulty of obtaining large enough training areas for such a mechanised force are touched upon. This is already becoming a big problem at Home—and an expensive one to solve.

The chapter on "The Rebirth of Cavalry" emphasises the value of the combination of shock action and speed from A. D. 378 until the present day and advocates the conversion of the cavalry into fast "cavalry" tanks.

The one-man tank is described as "The Mounted Infantry of the Future" and an interesting description is given of the evolution of the small tank and its possibilities and probable action in war. Chapter VI deals with gas.

The author quotes statistics to prove the humanity of gas, as compared to the other weapons. Of the British casualties in the war from bullet, shell and bayonet a proportion of nearly one died to 3 wounded, whereas the fatal casualties from gas were only one in 30. With regard to the use of gas in savage warfare he says "By banning gas the civilised powers condemn themselves to expeditions costly in life and money, and in these days, when most tribesmen have rifles, if not machine-guns, such risings are increasingly difficult to quell as we found in Waziristan, and the French in Morocco. If the conventional soldier thinks it "Sporting" to fight the tribesmen with his own weapons, the taxpayer at least might question the wisdom of such a policy."

In his chapter on "The Napoleonic Fallacy" Captain Liddell Hart strongly criticises the generally accepted principle that success in war can only be accomplished by the destruction of the enemy's armed forces. He maintains rather that a nation's object in war should be to subdue the enemy's will to resist, with the least possible human and economic loss to itself. No educated soldier will disagree with the statement but the difficulty is to subdue the enemy's will *without* defeating his armed forces. Nations have a nasty habit of pushing forward their armed forces to take the shocks and to ensure their protection and however much we may

try to jump over them with aeroplanes, pierce them with tanks or otherwise outflank them, the armed forces of the enemy will generally have to be met and defeated eventually before the campaign can be brought to a successful conclusion.

Intensive air attacks on vital civil centres, the possible results of which are vividly depicted in this chapter may of course attain this object but this is still a much debated point.

Part II.—Rejuvenation contains an interesting chapter on “The drill of Infantry.”

A good deal has been written of late on the simplification of drill and Captain Liddell Hart, while not denying in any way the importance of drill to the soldier, puts forward a system of parade drill which might take the place of our present system.

He points out that our existing system is substantially the same in principle as it was in the 18th century when movements in line, column and close column formations were the actual tactical formations and movements on the battlefield.

The development of modern firearms has, however, rendered these formations obsolete on the battlefield but, although the French and other modern armies have discarded them, we still retain them for the parade ground.

The author puts forward in great detail a simplified drill, suitable to the parade ground and for ceremonial, but based on battle formation.

Quite the soundest and most interesting chapter in the book is that on “The leadership of armies.”

Captain Liddell Hart steers a clear course between the amateur strategist, who thinks himself qualified to be a military leader without any deep study of the military profession, and the narrow minded professional soldier who considers that no one who has not started his military career from his youth up can have any ideas on military matters at all, and quite dispassionately, tries to determine why the professional soldier of recent times who has “been through the mill” and eventually reached the top has not always shone as a leader in war and has not always such a clear grasp of the essentials of military strategy as the amateur who has only been able to study the art of war in his spare time.

He puts forward the following reasons—long years of routine soldiering and—age. He in no way decries the capabilities of the professional soldier but considers that the rather circumscribed sphere of any, and especially regimental, life may have a deadening effect on the intellect.

As regards age this was one of the lessons of the last war. That it has not been forgotten is shown by the system of partial promotion by selection now in force at Home. Captain Liddell Hart emphasises the ages of the great commanders of the past when at the zenith of their powers—Napoleon, Alexander the Great 25 when he won his last great victory at Arbela, Frederick the Great in supreme command at 29, etc., and compares them with the ages of the commanders in the World War.

Part III describes and compares the post-war doctrines of Germany and France and discusses the organisation and doctrine of the French Army of to-day.

Part IV—contains an interesting chapter on the origins of the tank and a short account of the Aldershot Command Staff Tour recently conducted by Lieut.-General Sir Archibald Montgomery in France.



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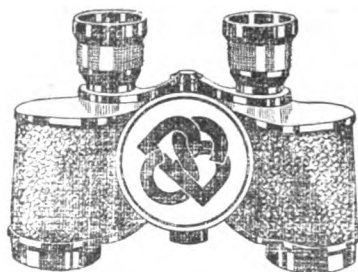
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